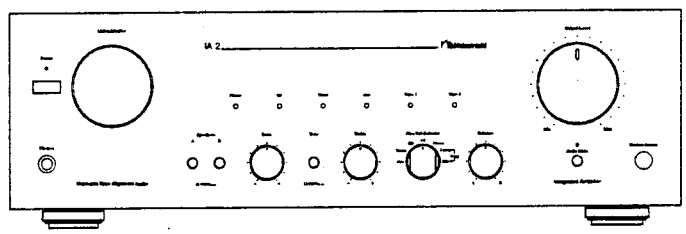
Service Manual

IA-2

Integrated Amplifier



Nakamichi

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1. GENERAL

Reference Service Manual
The base Model of IA-2 is Amplifier 2. In this Service Manual, identical sections/items are omitted. So, please refer to the Service Manual of Amplifier 2 (0Q06142A).

1.1. Product Code
B115

1.2. Destinations
EP, UK, SWT, GER, AUS, SAU, OTR, JPN

Abbreviation

EP	— Europe	AUS	— Australia
UK	— United Kingdom	SAU	— Saudi Arabia
SWT	— Switzerland	OTR	— Other
GER	— Germany	JPN	— Japan

1.3. Cautions/Warnings
(1) Product Safety Notice
Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.
WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

1.4. Voltage Selector
Voltage Selector is installed on the Rear Panel of the IA-2 (SAU and OTR). The voltage selector can select either 110V–120V or 220V–240V at customer's disposal.

1.5. Package Ass'y and Accessory Ass'y

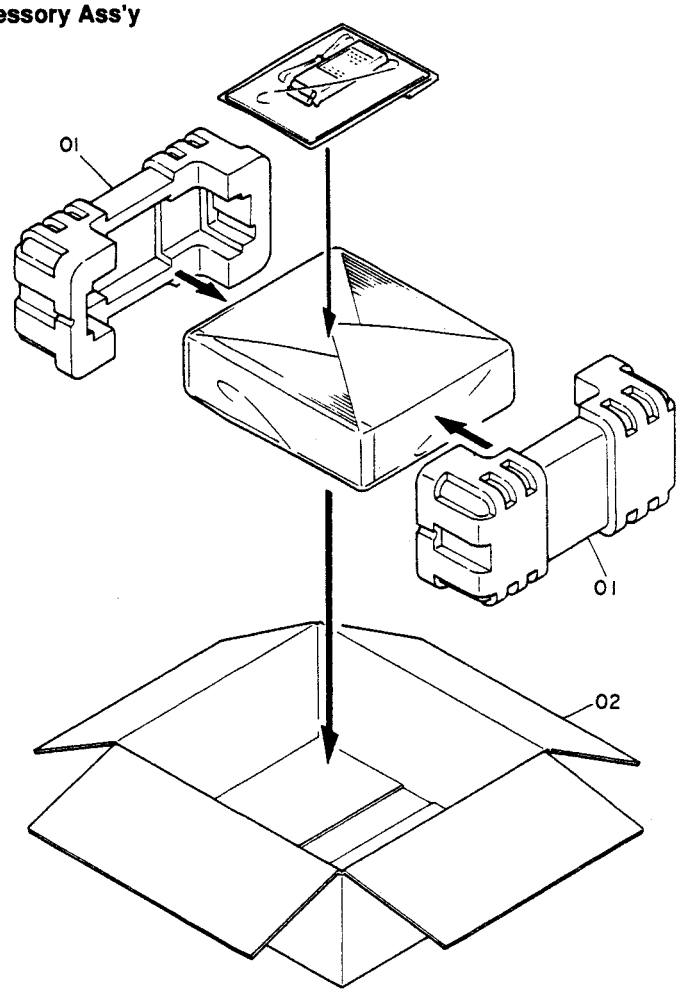


Fig. 1

Schematic Ref. No.	Part No.	Description	Q'ty
	Package Ass'y		
01	0F04469B	Packing	2
02	0F04752A	Carton Box	1
—	0F04458A	Soft Sheet	1

Schematic Ref. No.	Part No.	Description	Q'ty
	DA04728A	**Accessory Ass'y (EP, SWT, GER)**	**1**
	DA04731A	**Accessory Ass'y (UK)**	**1**
	DA04733A	**Accessory Ass'y (SAU)**	**1**
	DA04730A	**Accessory Ass'y (AUS, OTR)**	**1**
	DA04729A	**Accessory Ass'y (JPN)**	**1**
	0B90451A	Battery UM3x1	2
	0D06457A	Owner's Manual (English)	1
	0D06459A	Owner's Manual (German)	1
	0D06460A	Owner's Manual (French)	1
	0D06458A	Owner's Manual (Japanese)	1
	DA04734A	Remote Control Unit	1
	0D06136A	Mini Plug Cord	1

2. MECHANISM ASS'Y AND PARTS LIST

2.1. Synthesis

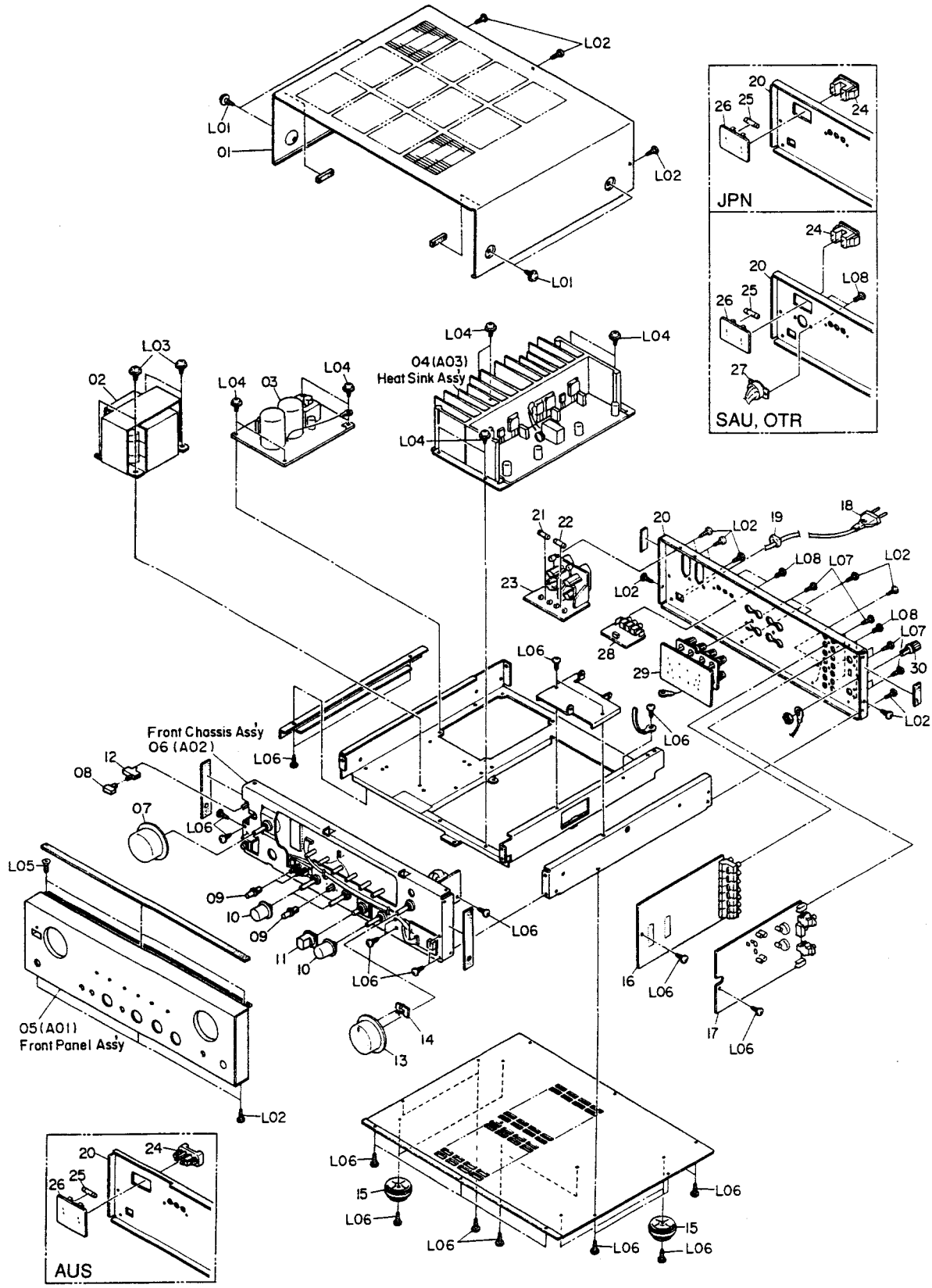


Fig. 2.1

2.1. Synthesis

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Synthesis**	
01	0H05862A	Top Cover	1
02	0B50188A	Power Transformer (EP, UK, SWT, AUS)	1
	0B50223A	Power Transformer (GER)	1
	0B50233A	Power Transformer (SAU)	1
	0B50189B	Power Transformer (OTR)	1
	0B50187A	Power Transformer (JPN)	1
03	BA08075A	Power Supply P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08074A	Power Supply P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
04	—	Heat Sink Ass'y	1
05	HA06664A	Front Panel Ass'y	1
06	—	Front Chassis Ass'y	1
07	HA06654A	Selector Knob Ass'y	1
08	0H06418A	Power Switch Knob	1
09	0H06656A	Push Knob	3
10	HA06655A	Tone Knob Ass'y	3
11	HA06656A	Rec. Out Knob Ass'y	1
12	0J07146A	Power Joint	1
13	HA06653A	Volume Knob Ass'y	1
14	BA08955A	Volume LED P.C.B. Ass'y	1
15	0H06472A	Leg	4
16	BA08077A	Selector P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08076A	Selector P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
17	BA08073A	Eq. Amp. P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08072A	Eq. Amp. P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
18	0B08093U	Power Cord (EP, SWT, GER)	1
	0B08348A	Power Cord (UK)	1
	0B05241A	Power Cord (AUS)	1
	0B80336A	Power Cord (SAU, OTR, JPN)	1
19	0B90280A	Cord Bushing	1
20	0H06626A	Rear Panel (EP)	1
	0H06627A	Rear Panel (UK)	1
	0H06630A	Rear Panel (GER)	1
	0H06631A	Rear Panel (AUS)	1
	0H06632A	Rear Panel (SAU)	1
	0H06629A	Rear Panel (OTR)	1
21	0B90385A	Fuse T2.5A 250V [F401] (EP, UK, SWT, GER)	1
22	0B90384A	Fuse T2.0A 250V [F402] (EP, UK, SWT, GER)	1
23	BA08071A	AC Outlet B P.C.B. Ass'y (EP, SWT, GER)	1
	BA08070A	AC Outlet B P.C.B. Ass'y (UK)	1
24	0B80394A	AC Outlet (AUS)	1
	0B81986A	AC Outlet 2P (SAU, OTR, JPN)	1
25	0B90385A	Fuse T2.5A 250V [F401] (AUS)	1
	0B90380A	Fuse 5A 125V [F401] (SAU, OTR, JPN)	1
26	BA08069A	AC Outlet A P.C.B. Ass'y (SAU, OTR, JPN)	1
27	0B70210A	Voltage Selector (SAU)	1
	0B70049A	Voltage Selector (OTR)	1
28	BA08062A	Remote P.C.B. Ass'y	1
29	BA08079A	Speaker Terminal P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08078A	Speaker Terminal P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
30	0B81604A	Earth Terminal	1
L01	0E03032A	BT4x8 + Pan Washer Faced (Black Chromate)	
L02	0E00921A	BT3x8 + Binding (Black Chromate)	
L03	0E03664A	ST4x8 + Tapping (Black Chromate)	
L04	0E03157A	BT3x8 + Binding with Flat Washer	
L05	0E03025A	BT3x6 + Countersunk	
L06	0E00868A	BT3x8 + Binding	
L07	0E03749A	PT3x8 + Binding (Black Chromate)	
L08	0E00985A	M3x6 + Binding (Black Chromate)	
—	0J06377A	Speaker Terminal Cap (EP, UK, GER)	8

2.2. Front Panel Ass'y (A01)

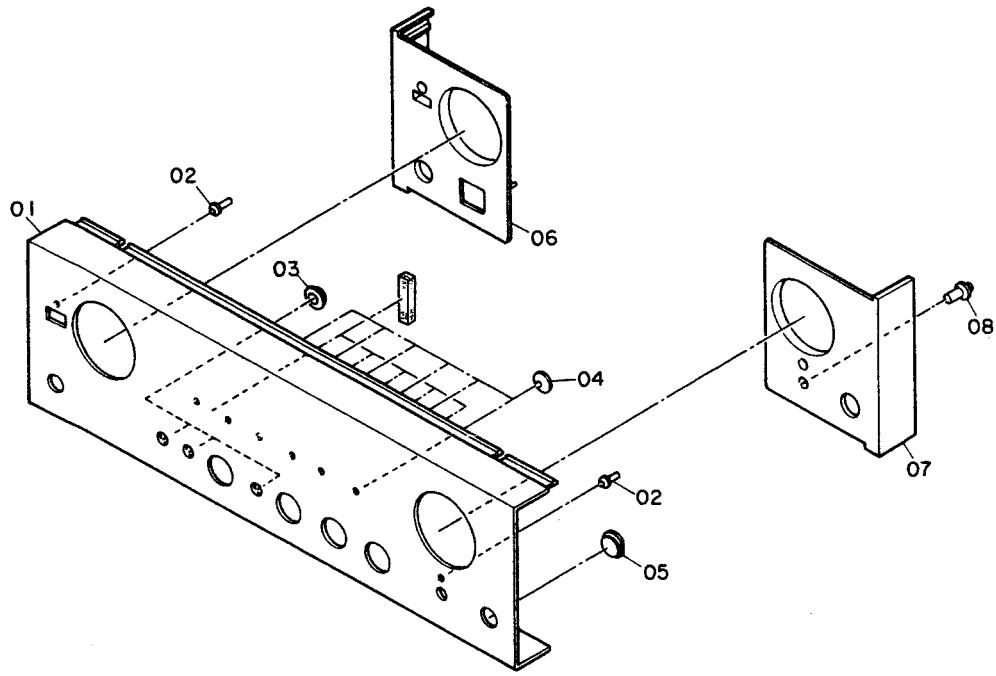


Fig. 2.2

2.2. Front Panel Ass'y (A02)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**HA06664A**	**Front Panel Ass'y**	**1**
01	0H06633A	Front Panel	1
02	0H05860A	Power Indicator Lens	2
03	0J07142B	Center Escutcheon	3
04	0H06621B	Selector Lens	6
05	0H05861A	Remote Control Window	1
06	HA06696C	Side Escutcheon L Ass'y	1
07	0H06620B	Side Escutcheon R	1
08	0H05858A	Mute Knob	1

2.3. Front Chassis Ass'y (A02)

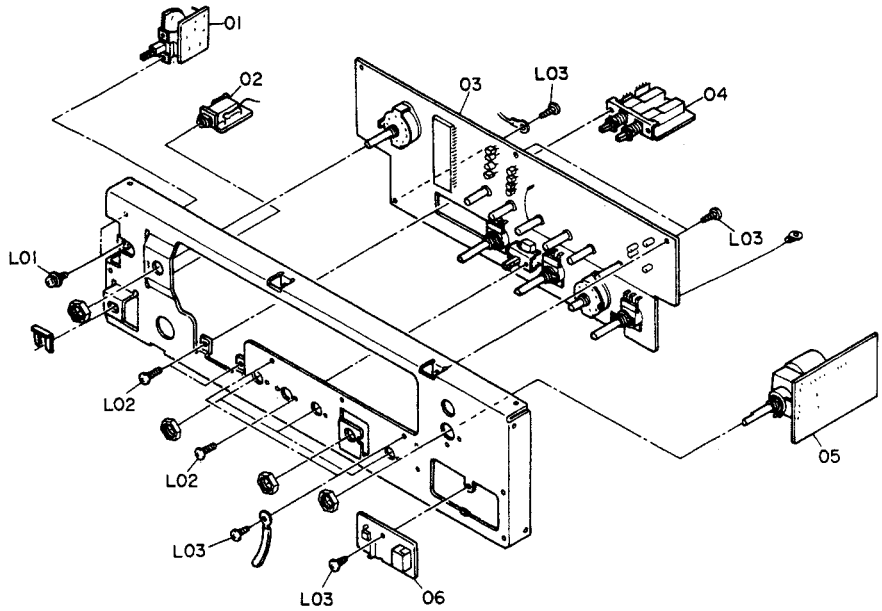


Fig. 2.3

2.3. Front Chassis Ass'y (A02)

Schematic Ref. No.	Part No.	Description	Q'ty
A02	—	**Front Chassis Ass'y**	1
01	BA08061A	Power Switch P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08060A	Power Switch P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
02	BA08057A	Headphone P.C.B. Ass'y	1
03	BA08946A	Front P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08947A	Front P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
04	BA08064A	Speaker Switch P.C.B. Ass'y	1
05	BA08065A	Volume B P.C.B. Ass'y	1
06	BA08950A	Sensor P.C.B. Ass'y	1
L01	0E00606A	M3x6 + Pan (3A)	
L02	0E00896A	M3x6 + Binding	
L03	0E00877A	ST3x5 + Binding	

2.4. Heat Sink Ass'y (A03)

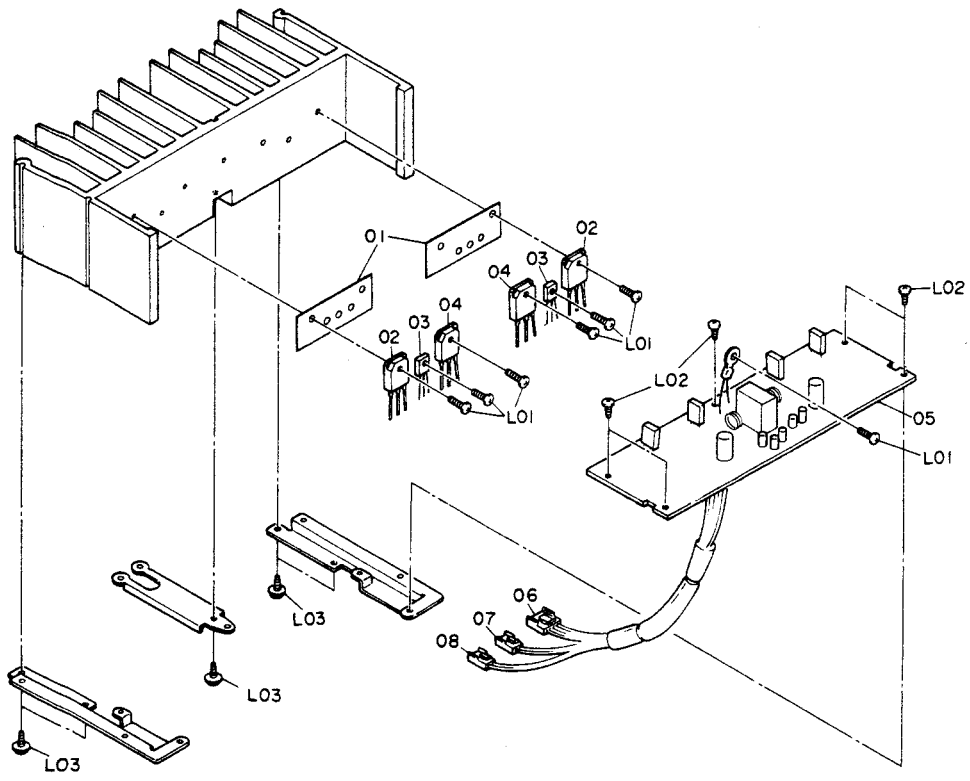


Fig. 2.4

2.4. Heat Sink Ass'y (A03)

Schematic Ref. No.	Part No.	Description	Q'ty
A03	—	**Heat Sink Ass'y**	1
01	0J06294A	Transistor Sheet	2
02	0B10290A	TR 2SA1491 [Q182L,R]	2
03	0B10381A	TR 2SC3421 [Q176L,R]	2
04	0B10291A	TR 2SC3855 [Q181L,R]	2
05	BA08948A	Power Amp. P.C.B. Ass'y (EP, UK, SWT, GER)	1
	BA08949A	Power Amp. P.C.B. Ass'y (AUS, SAU, OTR, JPN)	1
06	0B80356A	Connector Ass'y 4P [CN118]	1
07	0B80355A	Connector Ass'y 2P [CN116]	1
08	0B80357A	Connector Ass'y 2P [CN121]	1
L01	0E03319A	M3x8 + Binding	
L02	0E00868A	BT3x8 + Binding	
L03	0E03157A	BT3x8 + Binding With Flat Washer	

3. MOUNTING DIAGRAMS AND PARTS LIST

3.1. Volume LED P.C.B. Ass'y

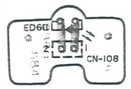


Fig. 3.1

3.2. Sensor P.C.B. Ass'y

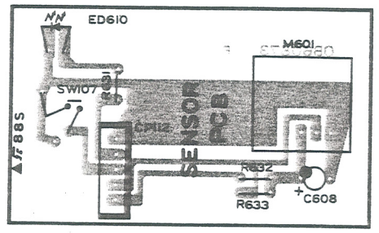
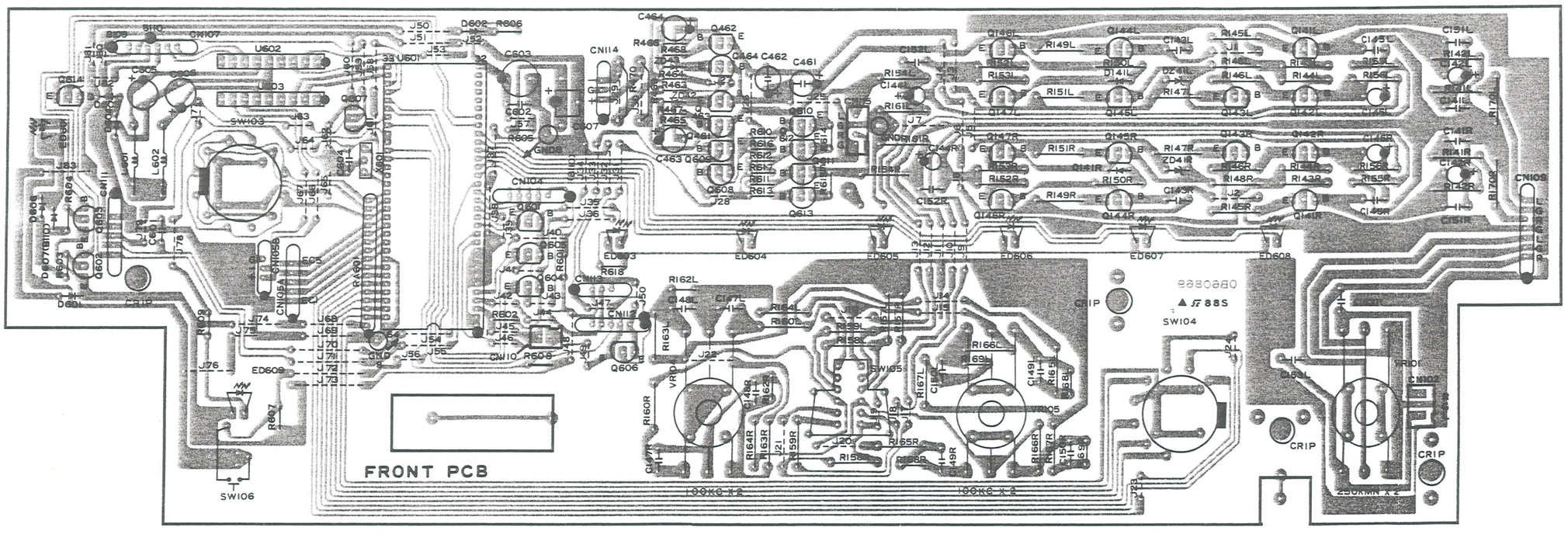


Fig. 3.2

3.3. Front P.C.B. Ass'y



NOTES: 1. Abbreviations
TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor, RC – Cement Resistor
CE – Electrolytic Capacitor, CML – Mylar Capacitor, CC – Ceramic Capacitor, CPP – PP Capacitor,
CMM – Metalized Mylar Capacitor, CSP – Polystyrene Capacitor, C – Mica Capacitor,
CT – Tantalum Capacitor
2. Description of capacitor: 10 16V = 10μ 16V

3.1. Volume LED P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA08955A	**Volume LED P.C.B Ass'y**
	0B60892E	Volume LED P.C.B.
ED611	0C85387A	LED SLR-34DC3F
CN108	0B80345A	2P Connector Ass'y

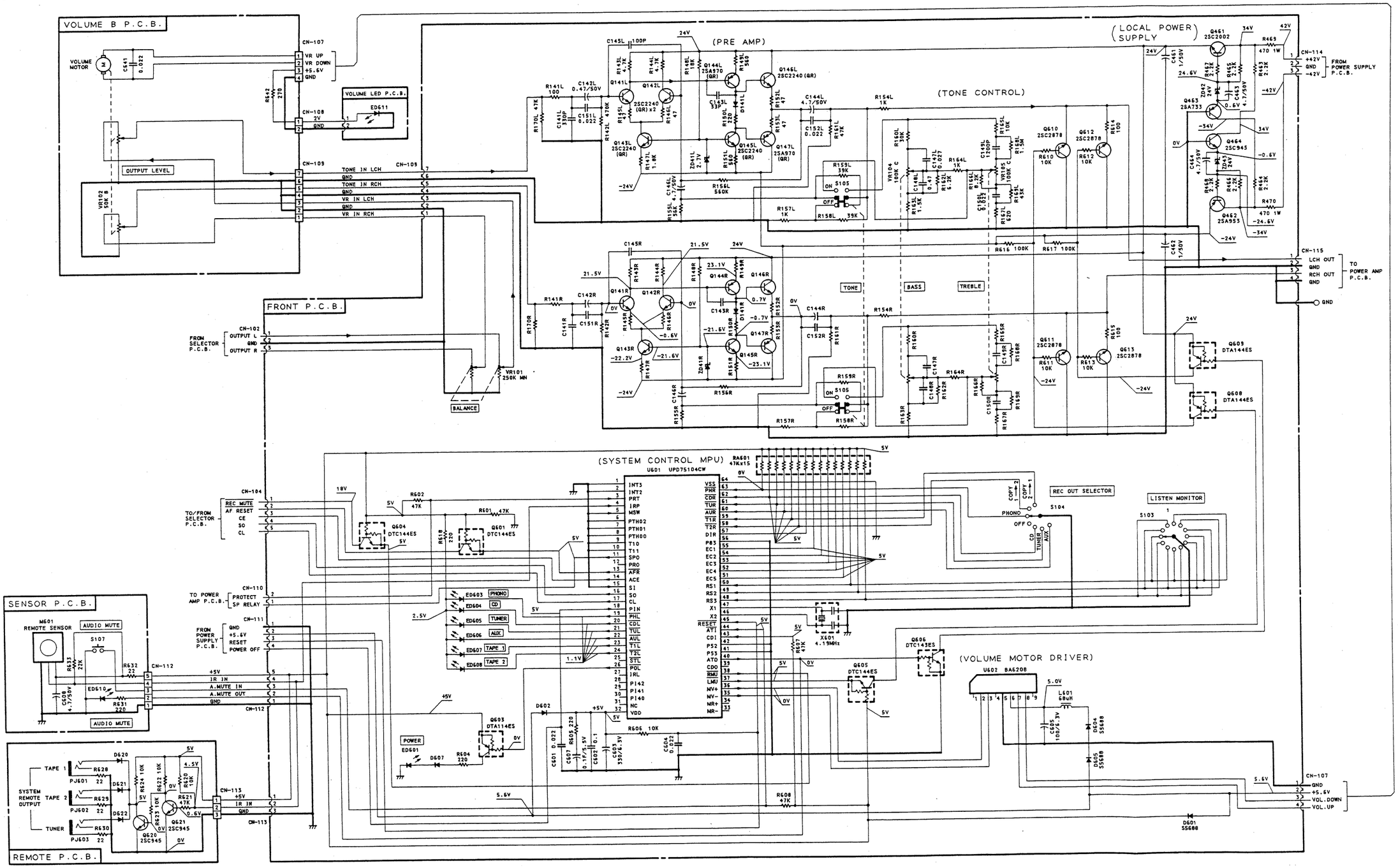
3.2. Sensor P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA08950A	**Sensor P.C.B. Ass'y**
	0B60873F	Sensor P.C.B.
ED610	0C85387A	LED SLR-34DC3F
R631	0B09661A	RK 220 1/6W J
R632	0B09637A	RK 22 1/6W J
R633	0B09709A	RK 22K 1/6W J
C608	0B40176A	CE 4.7 50V
M601	0B19017A	Remote Receiver Unit
S107	0B70161A	Tact Switch
CN112	0B81637A	5P T-Post

3.3. Front P.C.B. Ass'y

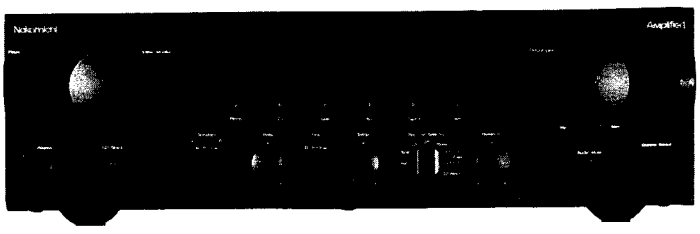
Schematic Ref. No.	Part No.	Description
	BA08946A	**Front P.C.B. Ass'y (EP, UK, GER)**
	BA08947A	**Front P.C.B. Ass'y (AUS, SAU, OTR, JPN)**
	0B60869F	Front P.C.B.
	0J06295A	LED Reflector
U601	0B11888A	IC uPD75104CW
U602	0B11530A	IC BA6208
Q141L,R	0B10078A	TR 2SC2240 (GR)
Q142L,R	0B10078A	TR 2SC2240 (GR)
Q143L,R	0B10078A	TR 2SC2240 (GR)
Q144L,R	0B06180A	TR 2SA970 (GR)
Q145L,R	0B10078A	TR 2SC2240 (GR)
Q146L,R	0B10078A	TR 2SC2240 (GR)
Q147L,R	0B06180A	TR 2SA970 (GR)
Q461	0B06322A	TR 2SC2002 (K,L)
Q462	0B06372A	TR 2SA953 (K,L)
Q463	0B06155A	TR 2SA733
Q464	0B06100A	TR 2SC945
Q601	0B10062A	TR DTC144ES
Q603	0B10058A	TR DTA144ES
Q604,605	0B10062A	TR DTC144ES
Q606	0B10070A	TR DTC143ES
Q608,609	0B10053A	TR DTA144ES
Q610,611	0B06299A	TR 2SC2878
Q612,613	0B06299A	TR 2SC2878
ZD41L,R	0B12360A	ZD 2.7V B2
ZD42,43	0B12195A	ZD 24V B2
ED601,603	0C85387A	LED SLR-34DC3F
ED604,605	0C85387A	LED SLR-34DC3F
ED605,606	0C85387A	LED SLR-34DC3F
ED607,608	0C85387A	LED SLR-34DC3F
D141L,R	0B06398A	SID 1SS176
D601	0B12693A	SID S5688B
D602	0B06398A	SID 1SS176
D604,605	9B80082A	Jumper Wire (EP, UK, GER)
	0B12693A	SID S5688B (AUS, SAU, OTR, JPN)
D607	0B06398A	SID 1SS176
X601	0B92043A	X'tal 4.19MHz
L601	0B51378W	Inductor 68uH
VR101	0B30139A	VR 250 KMN
VR104,105	0B30140A	VR 100 KC
RA601	0B21103A	R Network 47Kx15
R141L,R	0B01679A	RK 100 1/4W J
R142L,R	0B01684A	RK 470K 1/4W J
R143L,R	0B01846A	RK 4.7K 1/4W J
R144L,R	0B01846A	RK 4.7K 1/4W J
R145L,R	0B01706A	RK 47 1/4W J
R146L,R	0B01706A	RK 47 1/4W J
R147L,R	0B05614A	RK 1.8K 1/4W J
R148L,R	0B05560A	RK 18K 1/4W J
R149L,R	0B05575A	RK 560 1/4W J
R150L,R	0B01933A	RK 220 1/4W J
R151L,R	0B05575A	RK 560 1/4W J
R152L,R	0B01706A	RK 47 1/4W J
R153L,R	0B01706A	RK 47 1/4W J
R154L,R	0B01857A	RK 1.0K 1/4W J
R155L,R	0B05508A	RK 56K 1/4W J
R156L,R	0B05784A	RK 560K 1/4W J
R157L,R	0B01857A	RK 1.0K 1/4W J
R158L,R	0B01854A	RK 39K 1/4W J
R159L,R	0B01854A	RK 39K 1/4W J
R160L,R	0B09075A	RK 30K 1/4W J
R161L,R	0B05641A	RK 47K 1/4W J
R162L,R	0B09696A	RK 6.2K 1/6W J
R163L,R	0B05698A	RK 1.5K 1/4W J
R164L,R	0B01857A	RK 1.0K 1/4W J
R165L,R	0B01888A	RK 10K 1/4W J
R166L,R	0B01856A	RK 8.2K 1/4W J
R167L,R	0B09882A	RK 620 1/4W J
R168L,R	0B20093A	RK 1.5M 1/6W J
R169L,R	0B09716A	RK 43K 1/6W J
R170L,R	0B05641A	RK 47K 1/4W J
R463,464	0B09685A	RK 2.2K 1/6W J
R465,466	0B09685A	RK 2.2K 1/6W J
R467,468	0B09685A	RK 2.2K 1/6W J
R469,470	0B24279A	RF 470 1W
R601,602	0B09717A	RK 47K 1/6W J
R604,605	0B09661A	RK 220 1/6W J
R606	0B09701A	RK 10K 1/6W J
R607,608	0B09717A	RK 47K 1/6W J
R610,611	0B09701A	RK 10K 1/6W J
R612,613	0B09701A	RK 10K 1/6W J
R614,615	0B09653A	RK 100 1/6W J
R616,617	0B09725A	RK 100K 1/6W J
R618	0B09661A	RK 220 1/6W J
C141L,R	0B47113A	CC 330P 50V K
C142L,R	0B40777A	CE 0.47 50V
C143L,R	0B41976A	CC 33P 50V J
C144L,R	0B40784A	CE 4.7 50V
C145L,R	0B41974A	CC 100P 50V J
C146L,R	0B40784A	CE 4.7 50V
C147L,R	0B09045A	CML 0.027 50V J
C148L,R	0B41306A	CML 0.47 50V J
C149L,R	0B05687A	CML 1200P 50V J
C150L,R	0B05582A	CML 0.022 50V J
C151L,R	0B05582A	CML 0.022 50V J
C152L,R	0B05582A	CML 0.022 50V J
C461,462	0B40557A	CE 1 50V
C463,464	0B40784A	CE 4.7 50V
C601	0B41554A	CC 0.022 25V Z
C602	0B47117A	CC 0.1 50V K
C603	0B40786A	CE 330 6.3V
C604	0B41554A	CC 0.022 25V Z
C605	0B40158A	CE 100 6.3V
C607	0B40501A	CE 0.1 5.5V
S103	0B70186A	Rotary Switch 1-12NS
S104	0B70191A	Rotary Switch 1-7NS
S105	0B70196A	Push Switch
CN102	0B80337C	3P Connector Ass'y
CN104	0B80338B	5P Connector Ass'y
CN107	0B80369B	4P Connector Ass'y
CN109	0B80346A	7P Connector Ass'y
CN110	0B80353A	4P Connector Ass'y
CN111	0B80363A	4P Connector Ass'y
CN112	0B80347A	5P Connector Ass'y
CN113	0B80348B	3P Connector Ass'y
CN114	0B80361A	3P Connector Ass'y
CN115	0B80352B	4P Connector Ass'y
M101	0B90429A	C. Clip (5)
JP601	0B80395A	Ground 8 Ass'y
	0B84386A	6P Wire Holder (CN107)
	0B84385A	5P Wire Holder (CN104/CN111/CN112)
	0B84387A	7P Wire Holder (CN109)
	0B84383A	3P Wire Holder (CN113/CN114)
	0B80379B	Ground 7 Ass'y (1)
	0J06295A	LED Reflector (6)
	0B84395A	LED Spacer

4. SCHEMATIC DIAGRAM



Service Manual

Nakamichi Amplifier 1



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   6. 3. Volume LED P.C.B. Ass'y 9
   6. 4. Headphone P.C.B. Ass'y 9
   6. 5. Speaker Switch P.C.B. Ass'y 10
   6. 6. Remote P.C.B. Ass'y 10
   6. 7. Sensor P.C.B. Ass'y 10
   6. 8. Volume A P.C.B. Ass'y 10
   6. 9. Speaker Terminal P.C.B. Ass'y 10
   6. 10. Power Supply P.C.B. Ass'y 11
   6. 11. Eq. Amp. P.C.B. Ass'y 12
   6. 12. Selector P.C.B. Ass'y 13
   6. 13. Power Amp. P.C.B. Ass'y 14
   6. 14. Front P.C.B. Ass'y 15
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1. GENERAL

1.1. Production No.

Production No.: B109

1.2. Destinations

EP, UK, SWT, GER, AUS, OTR, JPN

Abbreviation

EP	— Europe	AUS	— Australia
UK	— United Kingdom	OTR	— Other
SWT	— Switzerland	JPN	— Japan
GER	— Germany		

1.3. Parts Supply

(1) Unstocked Parts

Parts marked with "★" at the head of part No. are not stocked. So, it takes time to supply the parts after we receive your order.

(2) Unsupplied Parts

Parts without part Nos. (indicated as "—" in the parts list) are not supplied.

1.4. CAUTIONS/WARNINGS

(1) Product Safety Notice

Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to classis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.

WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

1.5. Voltage Selector

Voltage selector is installed on the Rear Panel of the Amplifier 2 (Other). The voltage selector can select 110 V, 120 V, 220 V, or 240 V at customer's disposal.

1.6. Package Ass'y and Accessory Ass'y

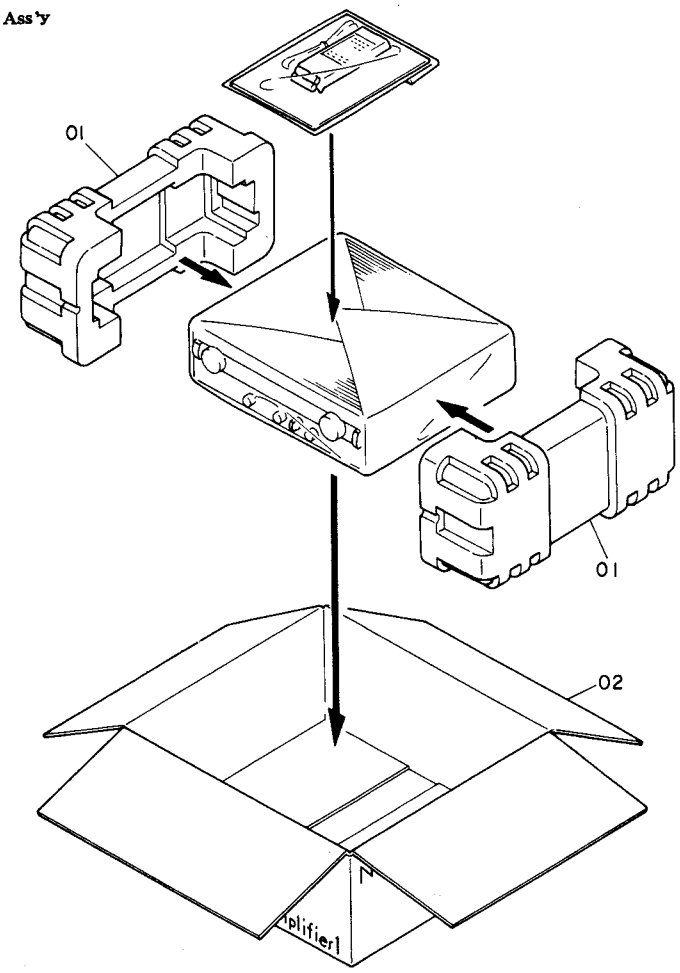


Fig. 1

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
	—	Package Ass'y			DA04422A	Accessory Ass'y (EP, SWT, GER, AUS)	1
01	0F04469A	Packing	2		DA04443A	Accessory Ass'y (UK)	1
02	0F04471A	Carton Box	1		DA04437A	Accessory Ass'y (OTR)	1
					DA04423A	Accessory Ass'y (JPN)	1
					0B90451A	Battery UM3x1	2
					0D06141A	Owner's Manual (English/German /French)	1
					0D06140A	Owner's Manual (Japanese)	1
					DA04428A	Remote Control Unit	1
					0D06136A	Mini Plug Cord	1

2. REMOVAL PROCEDURES

2.1. Top Cover
Refer to Fig. 2.1.
(1) Loosen screws F01 (4 pcs.) and F02 (3 pcs.), and remove F03 (Top Cover).

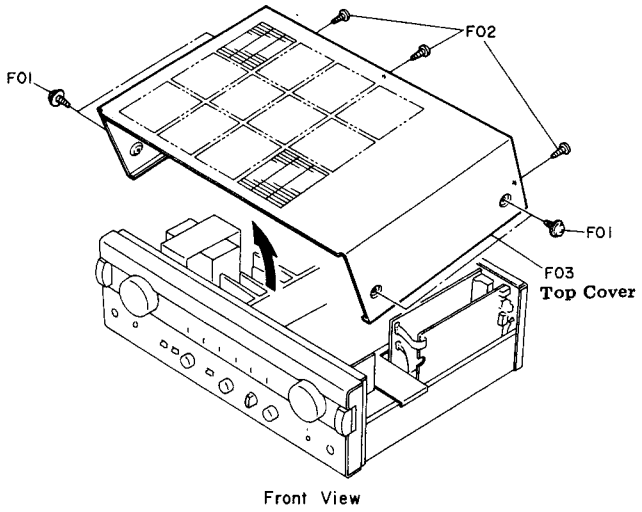


Fig. 2.1

2.2. Bottom Cover Ass'y
Refer to Fig.2.2.
(1) Loosen screws F01 (12 pcs.) and remove F02 (Bottom Cover Ass'y).

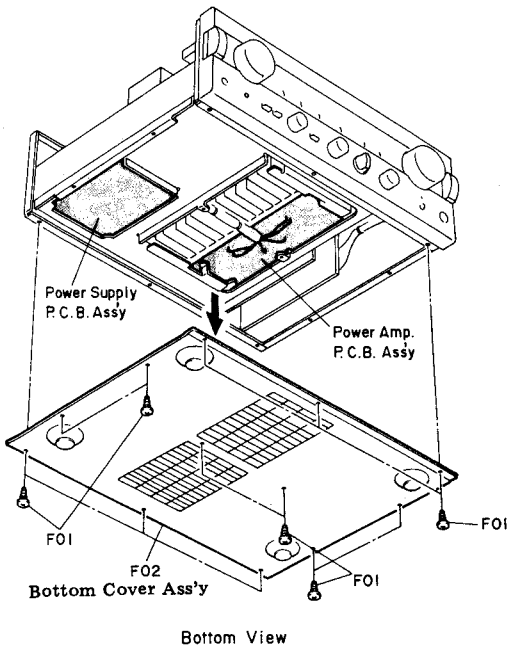


Fig. 2.2

2.3. Front Panel Ass'y
Refer to Fig. 2.3.
(1) Remove the Top Cover referring to item 2.1.
(2) Peel off F01 (Top Cover Cushion).
(3) Loosen screws F02 (2 pcs.) and F03 (3 pcs.), and remove F04 (Front Panel Ass'y).

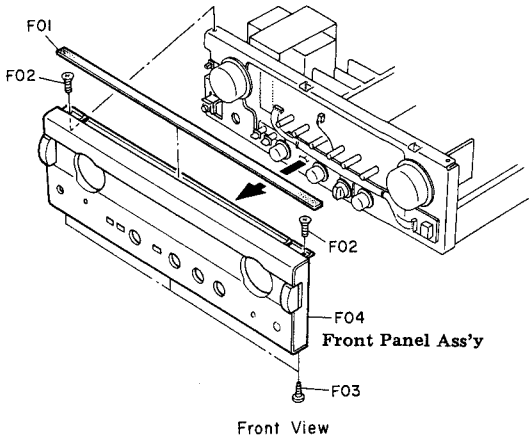


Fig. 2.3

3. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT

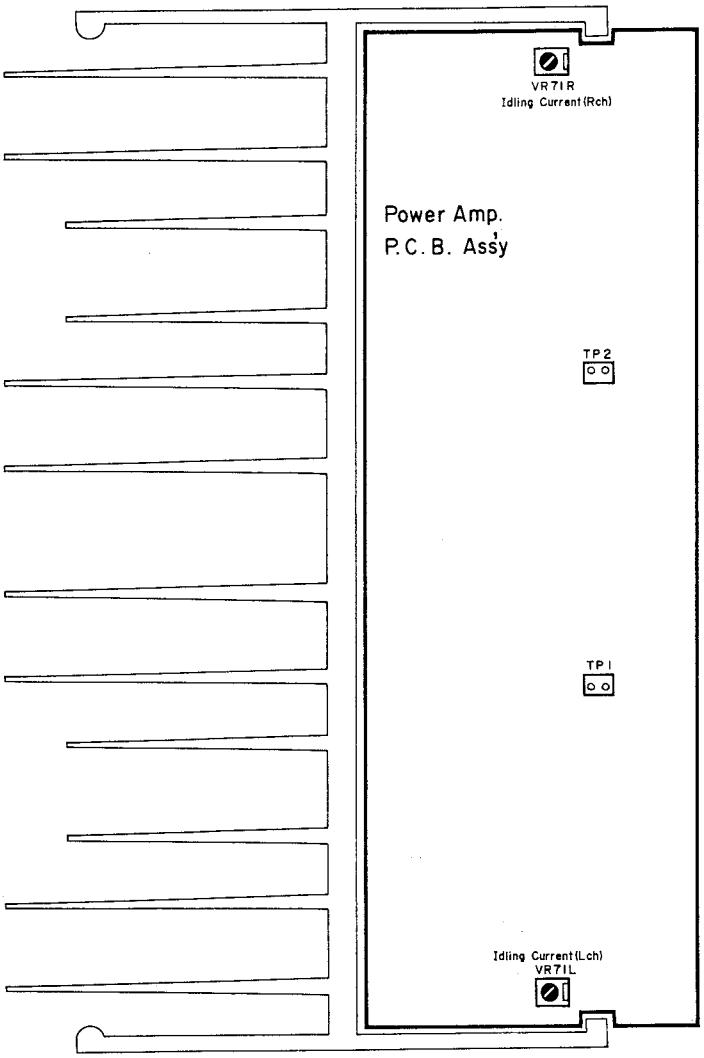


Fig. 3

4. ELECTRICAL ADJUSTMENT

4.1. Idling Current Adjustment

- Measuring Condition
  Red. Out Selector: CD Position
  CD Input Jacks: Short with shorting pins.
  Speaker Output Terminals: Unloaded

(1) Turn OFF the power.
(2) Turn VR71L (VR71R) on the Power Amp. P.C.B. Ass'y fully counterclockwise.
(3) Connect a DC millivoltmeter between both pins of TP1 (TP2).
(4) Turn ON the power.
(5) Rotate VR71L (VR71R) slowly and adjust so that the DC millivoltmeter reads 2.5 mV to 3.5 mV (idling current 11 mA to 16 mA).

5. MECHANISM ASS'Y AND PARTS LIST

5.1. Synthesis

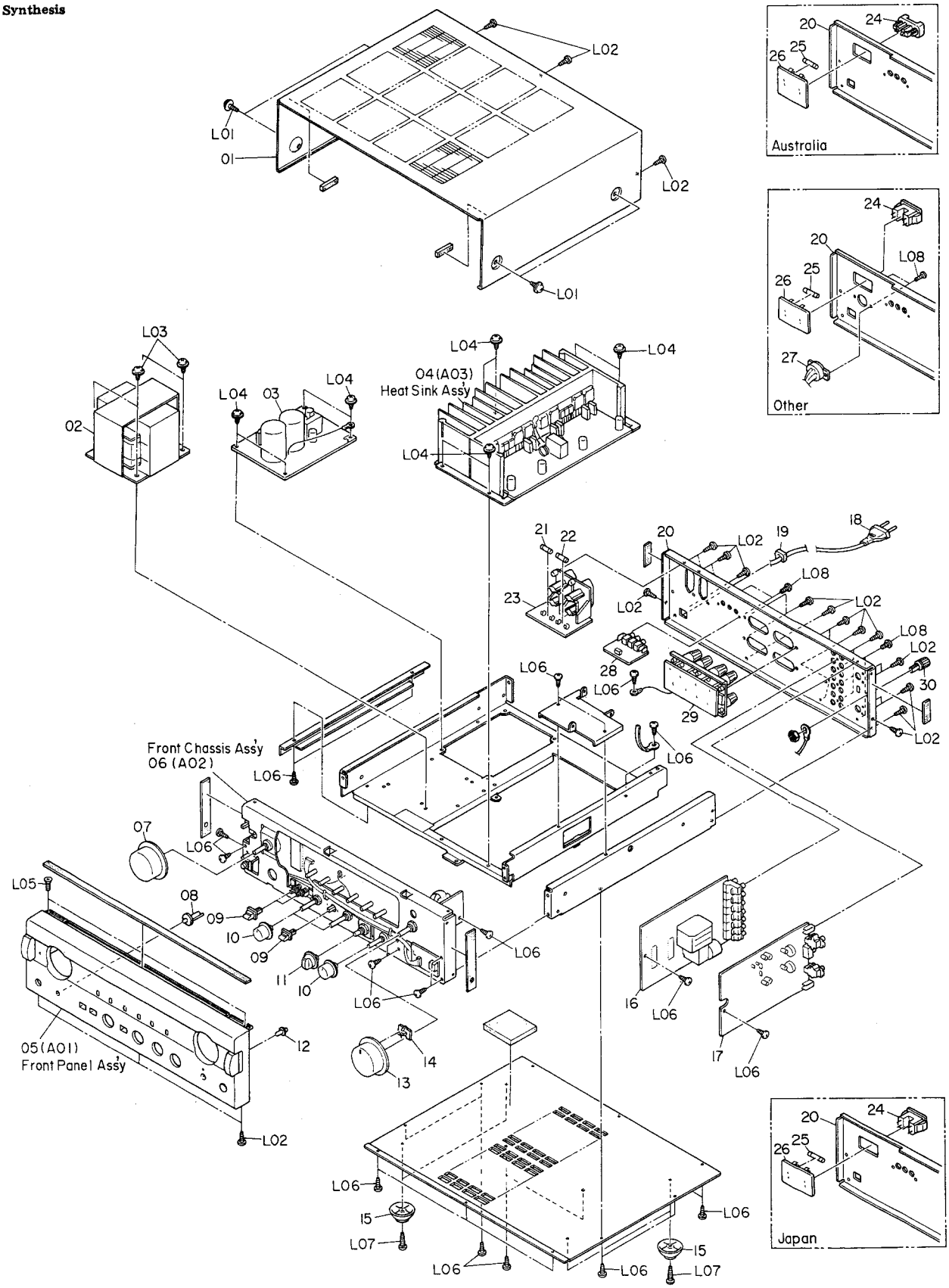


Fig. 5.1

★: Unstocked parts.

Schematic Ref. No.		Part No.	Description	Q'ty
5.1. Synthesis				
		—	Synthesis	
01		0H05862A	Top Cover	1
02		0B50185A	Power Transformer (EP, SWT, GER, UK, AUS)	1
		0B50186A	Power Transformer (OTR)	1
		0B50184A	Power Transformer (JPN)	1
03	★	BA08045A	Power Supply P.C.B. Ass'y (EP, SWT, GER, UK)	1
	★	BA08044A	Power Supply P.C.B. Ass'y (AUS, OTR, JPN)	1
04		—	Heat Sink Ass'y	1
05		HA05953B	Front Panel Ass'y	1
06		—	Front Chassis Ass'y	1
07		HA05956A	Selector Knob Ass'y	1
08		0H05857D	CD Knob	1
09		0H05877B	Push Knob	3
10		HA05957A	Tone Knob Ass'y	3
11		HA05958A	Rec. Out Knob Ass'y	1
12		0H05858B	Mute Knob	1
13		HA05955A	Volume Knob Ass'y	1
14	★	BA08050A	Volume LED P.C.B. Ass'y	1
15		HA05833A	Leg Ass'y	4
16	★	BA08047A	Selector P.C.B. Ass'y (EP, SWT, GER, UK)	1
	★	BA08046A	Selector P.C.B. Ass'y (AUS, OTR, JPN)	1
17	★	BA08043A	Eq. Amp. P.C.B. Ass'y (EP, SWT, GER, UK)	1
	★	BA08042A	Eq. Amp. P.C.B. Ass'y (AUS, OTR, JPN)	1
18		0B80382A	Power Cord KP4819C (EP, GER)	1
		0B80383A	Power Cord BS6500 GTBS-2 (UK)	1
		0B80385A	Power Cord KP-419S LTCE-2F (SWT)	1
		0B05241A	Power Cord KP-560 (AUS)	1
		0B80336A	Power Cord KP-235 (OTR, JPN)	1
19		0B90157A	Cord Bushing SR-6N-4 (EP, GER, UK)	1
		0B90530A	Cord Bushing 2104 (SWT)	1
		0B90280A	Cord Bushing 2271 (AUS, OTR, JPN)	1
20		0H05863B	Rear Panel (EP)	1
		0H05864A	Rear Panel (UK)	1
		0H05865B	Rear Panel (SWT)	1
		0H05955A	Rear Panel (GER)	1
		0H05956A	Rear Panel (AUS)	1
		0H05867A	Rear Panel (OTR)	1
		0H05866A	Rear Panel (JPN)	1
21		0B90386A	Fuse T3.15A 250V [F401] (EP, SWT, GER, UK)	1
22		0B90384A	Fuse T2.0A 250V [F402] (EP, SWT, GER, UK)	1
23	★	BA08041A	AC Outlet B P.C.B. Ass'y (EP, SWT, GER)	1
	★	BA08040A	AC Outlet B P.C.B. Ass'y (UK)	1
24		0B80394A	AC Outlet (AUS)	1
		0B81986A	AC Outlet 2P (OTR, JPN)	1
25		0B90386A	Fuse T3.15A 250V[F401] (AUS)	1
		0B90478A	Fuse 6.3A 250V [F401] (OTR, JPN)	1
26	★	BA08231A	AC Outlet P.C.B. Ass'y (AUS)	1
	★	BA08039A	AC Outlet A P.C.B. Ass'y (OTR, JPN)	1
27		0B70049A	Voltage Selector (OTR)	1
28	★	BA08032A	Remote P.C.B. Ass'y	1
29	★	BA08049A	Speaker Terminal P.C.B. Ass'y (EP, SWT, GER, UK)	1
	★	BA08123A	Speaker Terminal P.C.B. Ass'y (AUS, OTR, JPN)	1
30		0B81604A	Earth Terminal	1
L01		0E03032A	BT4x8 ⊕ Pan Washer Faced (Black Chromate)	
L02		0E00921A	BT3x8 ⊕ Binding (Black Chromate)	
L03		0E03664A	ST4x8 ⊕ Tapping (Black Chromate)	
L04		0E03157A	BT3x8 ⊕ Binding with Flat Washer	
L05		0E03025A	BT3x6 ⊕ Countersunk	
L06		0E00868A	BT3x8 ⊕ Binding	
L07		0E00888A	BT3x12 ⊕ Binding	
L08		0E00985A	M3x6 ⊕ Binding (Black Chromate)	

5.2. Front Panel Ass'y (A01)

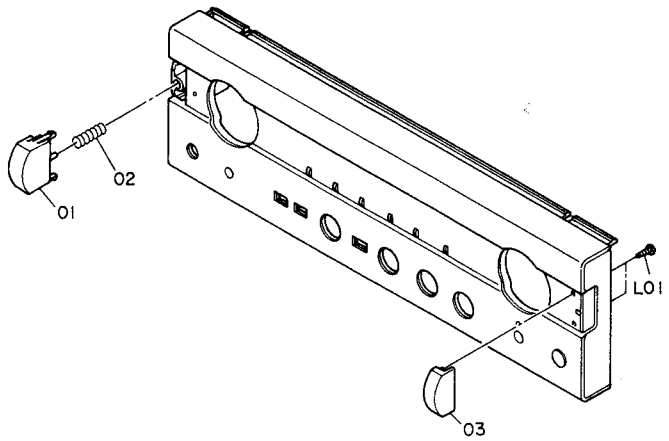


Fig. 5.2

5.3. Front Chassis Ass'y (A02)

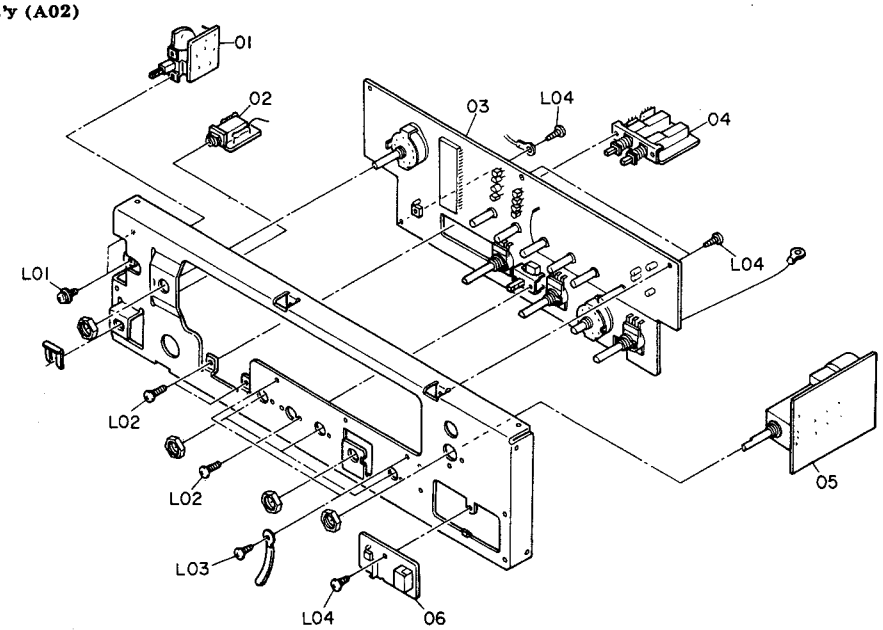


Fig. 5.3

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.		Part No.	Description	Q'ty
5.2. Front Panel Ass'y (A01)				**5.3. Front Chassis Ass'y (A02)**				
A01	HA05953B	Front Panel Ass'y	1	A02		—	Front Chassis Ass'y	1
01	0H05723A	Power Switch Button	1	01	★	BA08031A	Power Switch P.C.B. Ass'y (EP, SWT, GER, UK)	1
02	0C09392A	Power Switch Spring	1		★	BA08030A	Power Switch P.C.B. Ass'y (AUS, OTR, JPN)	1
03	0H05714A	Dummy Cap	1	02	★	BA08027A	Headphone P.C.B. Ass'y	1
L01	0E00855A	BT2x6 ⊕ Binding		03	★	BA08026A	Front P.C.B. Ass'y (EP, SWT, GER, UK)	1
					★	BA08025A	Front P.C.B. Ass'y (AUS, OTR, JPN)	1
				04	★	BA08034A	Speaker Switch P.C.B. Ass'y	1
				05	★	BA08035A	Volume A P.C.B. Ass'y	1
				06	★	BA08033A	Sensor P.C.B. Ass'y	1
				L01		0E00606A	M3x6 ⊕ Pan (3A)	
				L02		0E00896A	M3x6 ⊕ Binding	
				L03		0E00877A	ST3x8 ⊕ Binding	
				L04		0E00868A	BT3x8 ⊕ Binding	

5.4. Heat Sink Ass'y (A03)

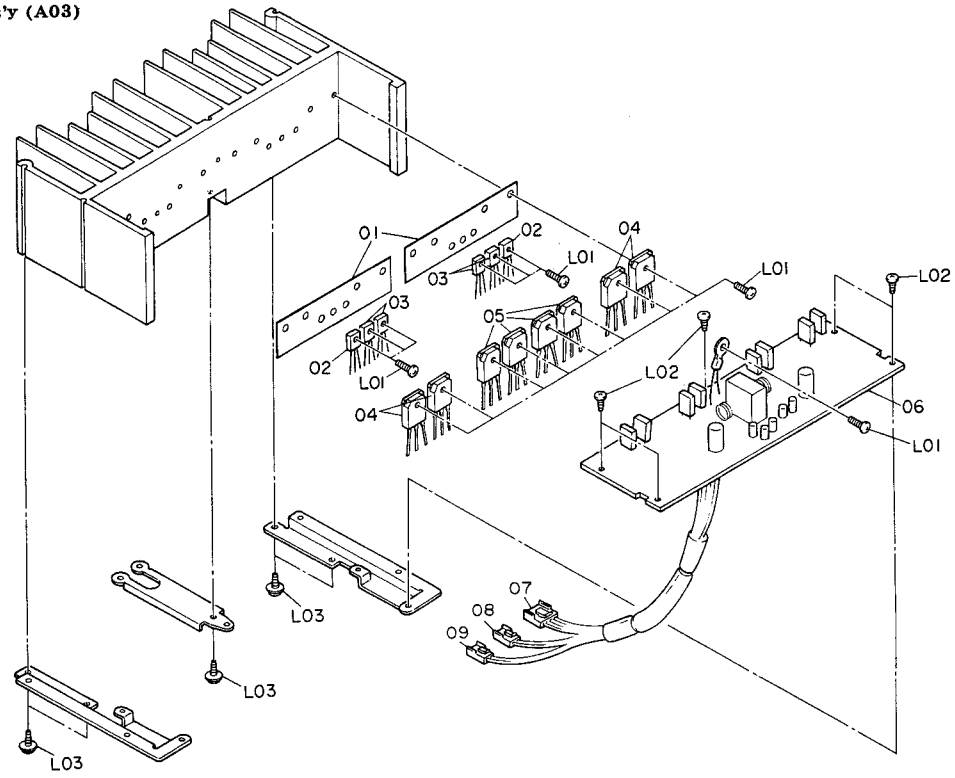


Fig. 5.4

★: Unstocked parts.

Schematic Ref. No.		Part No.	Description	Q'ty
5.4. Heat Sink Ass'y (A03)				
A03		—	**Heat Sink Ass'y**	1
01		0J06293A	Transistor Sheet	2
02		0B10380A	TR 2SA1358 [Q178L,R]	2
03		0B10381A	TR 2SC3421 [Q176L,R/Q177L,R]	4
04		0B10290A	TR 2SA1491 [Q180L,R/Q182L,R]	4
05		0B10291A	TR 2SC3855 [Q179L,R/Q181L,R]	4
06	★	BA08029A	Power Amp. P.C.B. Ass'y (EP, SWT, GER, UK)	1
	★	BA08028A	Power Amp. P.C.B. Ass'y (AUS, OTR, JPN)	1
07		0B80356A	4P Connector Ass'y [CN118]	1
08		0B80355A	2P Connector Ass'y [CN116]	1
09		0B80357A	2P Connector Ass'y [CN121]	1
L01		0E03319A	M3x8 ⊕ Binding	
L02		0E00868A	BT3x8 ⊕ Binding	
L03		0E03157A	BT3x8 ⊕ Binding With Flat Washer	

6. MOUNTING DIAGRAMS AND PARTS LIST

Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.
2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
3. Following transistors are interchangeable with each other.
   a. 2SA733, 2SA608SP, 2SA1048, 2SA1175
   b. 2SC945, 2SC536SP, 2SC2458, 2SC2785
4. Abbreviation for part name:
   TR — Transistor, SiD — Silicon Diode, ZD — Zener Diode, Varicap — Variable Capacitance Diode
   RK — Carbon Resistor, RM — Metal Film Resistor, RF — Fail Safe Type Resistor, RC — Cement Resistor
   CE — Electrolytic Capacitor, CML — Mylar Capacitor, CC — Ceramic Capacitor, CPP — PP Capacitor,
   CMM — Metalized Mylar Capacitor, CSP — Polystyrene Capacitor, C — Mica Capacitor
   CT — Tantalum Capacitor

6.1. AC Outlet P.C.B. Ass'y

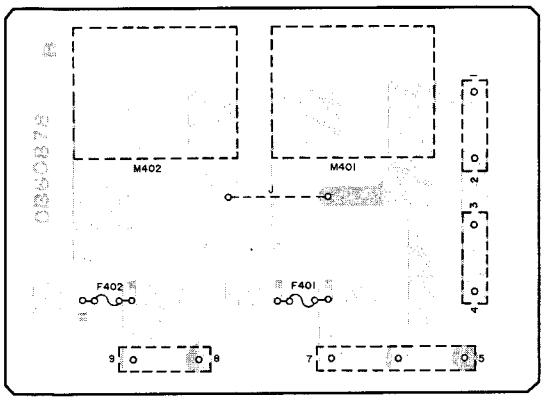


Fig. 6.1.1 For EP, SWT & UK

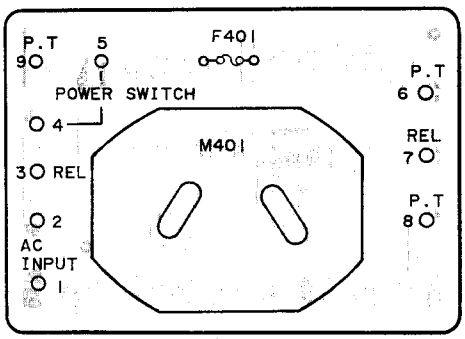


Fig. 6.1.2 For AUS

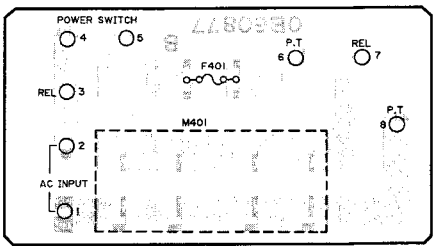


Fig. 6.1.3 For OTR & JPN

6.2. Power Switch P.C.B. Ass'y

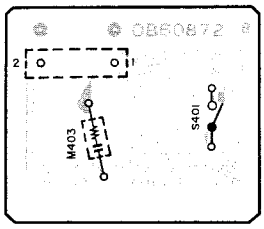


Fig. 6.2

6.3. Volume LED P.C.B. Ass'y

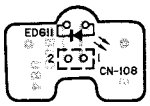


Fig. 6.3

6.4. Headphone P.C.B. Ass'y

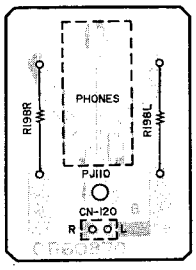


Fig. 6.4

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.1. AC Outlet P.C.B. Ass'y		
★	BA08041A	AC Outlet B P.C.B. Ass'y (EP, SWT, GER)
★	BA08040A	AC Outlet B P.C.B. Ass'y (UK)
	0B60878B	AC Outlet B P.C.B.
M401,402	0B84364A	AC Outlet (EP, SWT, GER)
M401,402	0B84365A	AC Outlet (UK)
	0B84275A	Wrapping Terminal 2P (3)
	0B84380A	Wrapping Terminal 3P (1)
	0B90366A	Fuse Clip (2)
★	BA08231A	AC Outlet P.C.B. Ass'y (AUS)
	0B60920A	AC Outlet P.C.B.
	0B90366A	Fuse Clip (2)
★	BA08039A	AC Outlet A P.C.B. Ass'y (OTR, JPN)
	0B60877B	AC Outlet A P.C.B.
	0B90366A	Fuse Clip (2)
6.2. Power Switch P.C.B. Ass'y		
★	BA08031A	Power Switch P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08030A	Power Switch P.C B. Ass'y (AUS, OTR, JPN)
	0B60872B	Power Switch P.C.B.
M403	0B47233A	Spark Killer XE12001
S401	0B71005A	Power Switch
	0B84275A	Wrapping Terminal 2P (1)
6.3. Volume LED P.C.B. Ass'y		
★	BA08050A	Volume LED P.C.B. Ass'y
	0B60884B	Volume LED P.C.B.
ED611	0B12710A	LED Green
CN108	0B80345A	2P Connector Ass'y
6.4. Headphone P.C.B. Ass'y		
★	BA08027A	Headpnone P.C.B. Ass'y
	0B60870B	Headphone P.C.B.
R198L,R	0B24281A	RF 330 2W
PJ110	0B84371A	Headphone Jack
CN120	0B81459A	2P T-Post
	0B80351B	Ground 2 Ass'y (1)

6.5. Speaker Switch P.C.B. Ass'y

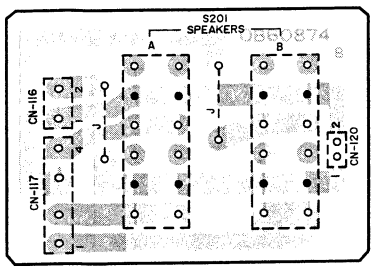


Fig. 6.5

6.6. Remote P.C.B. Ass'y

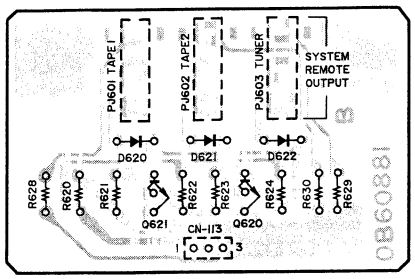


Fig. 6.6

6.7. Sensor P.C.B. Ass'y

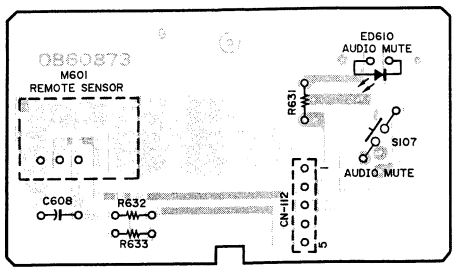


Fig. 6.7

6.8. Volume A P.C.B. Ass'y

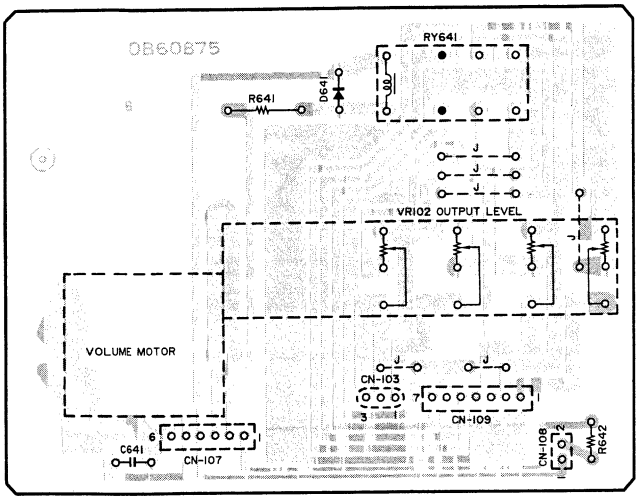


Fig. 6.8

6.9. Speaker Terminal P.C.B. Ass'y

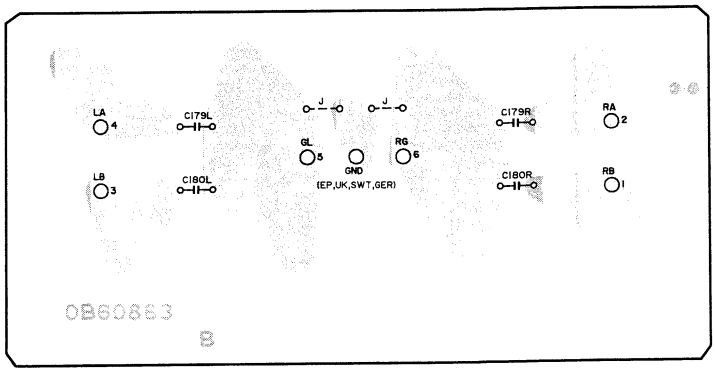


Fig. 6.9

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.5. Speaker Switch P.C.B. Ass'y		
★	BA08034A	Speaker Switch P.C.B. Ass'y
	0B60874B	Speaker Switch P.C.B.
S201	0B70189A	Push Switch
CN116	0B81400A	2P T-Post
CN117	0B81322A	4P T-Post
CN120	0B80358A	2P Connector Ass'y
6.6. Remote P.C.B. Ass'y		
★	BA08032A	Remote P.C.B. Ass'y
	0B60881B	Remote P.C.B.
Q620,621	0B06100A	TR 2SC945
D620,621	0B06398A	SiD 1SS176
D622	0B06398A	SiD 1SS176
R620	0B09701A	RK 10K 1/6W J
R621	0B09717A	RK 47K 1/6W J
R622,623	0B09701A	RK 10K 1/6W J
R624	0B09701A	RK 10K 1/6W J
R628,629	0B09637A	RK 22 1/6W J
R630	0B09637A	RK 22 1/6W J
PJ601,602	0B84372A	Mini Jack Stereo
PJ603	0B84372A	Mini Jack Stereo
CN113	0B84280A	3P T-Post
	0B84388A	Screw Terminal (2)

Schematic Ref. No.	Part No.	Description
6.7. Sensor P.C.B. Ass'y		
★	BA08033A	Sensor P.C.B. Ass'y
	0B60873B	Sensor P.C.B.
ED610	0B12710A	LED Green
R631	0B09661A	RK 220 1/6W J
R632	0B09637A	RK 22 1/6W J
R633	0B09709A	RK 22K 1/6W J
C608	0B40176A	CE 4.7μ 50V
M601	0B19017A	Remote Receiver Unit
S107	0B70161A	Tact Switch
CN112	0B81637A	5P T-Post
6.8. Volume A P.C.B. Ass'y		
★	BA08035A	Volume A P.C.B. Ass'y
	0B60875B	Volume A P.C.B.
D641	0B12693A	SiD S5688B
VR102	0B30137A	Motor VR 50KB/20KB
R641	0B20398A	RK 18 1/4W J
R642	0B09661A	RK 220 1/6W J
C641	0B41554A	CC 0.022μ 25V Z
RY641	0B90468A	Relay 5V
CN103	0B80341A	3P Connector Ass'y
CN107	0B84421A	6P S-Post
CN108	0B81459A	2P T-Post
CN109	0B81471A	7P S-Post

Schematic Ref. No.	Part No.	Description
6.9. Speaker Terminal P.C.B. Ass'y		
★	BA08049A	Speaker Terminal P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08123A	Speaker Terminal P.C.B. Ass'y (AUS, OTR, JPN)
	0B60883B	Speaker Terminal P.C.B.
C179L,R	0B47073A	CML 0.022μ 100V J
C180L,R	0B47073A	CML 0.022μ 100V J
CN117	0B80359A	4P Connector Ass'y
CN122	0B80360A	2P Connector Ass'y
PJ111	0B84366A	Speaker Terminal
	0B80350C	Ground 3 Ass'y (EP, SWT, GER, UK) (1)
	0J06335A	Spacer 25mm (4)

6.10. Power Supply P.C.B. Ass'y

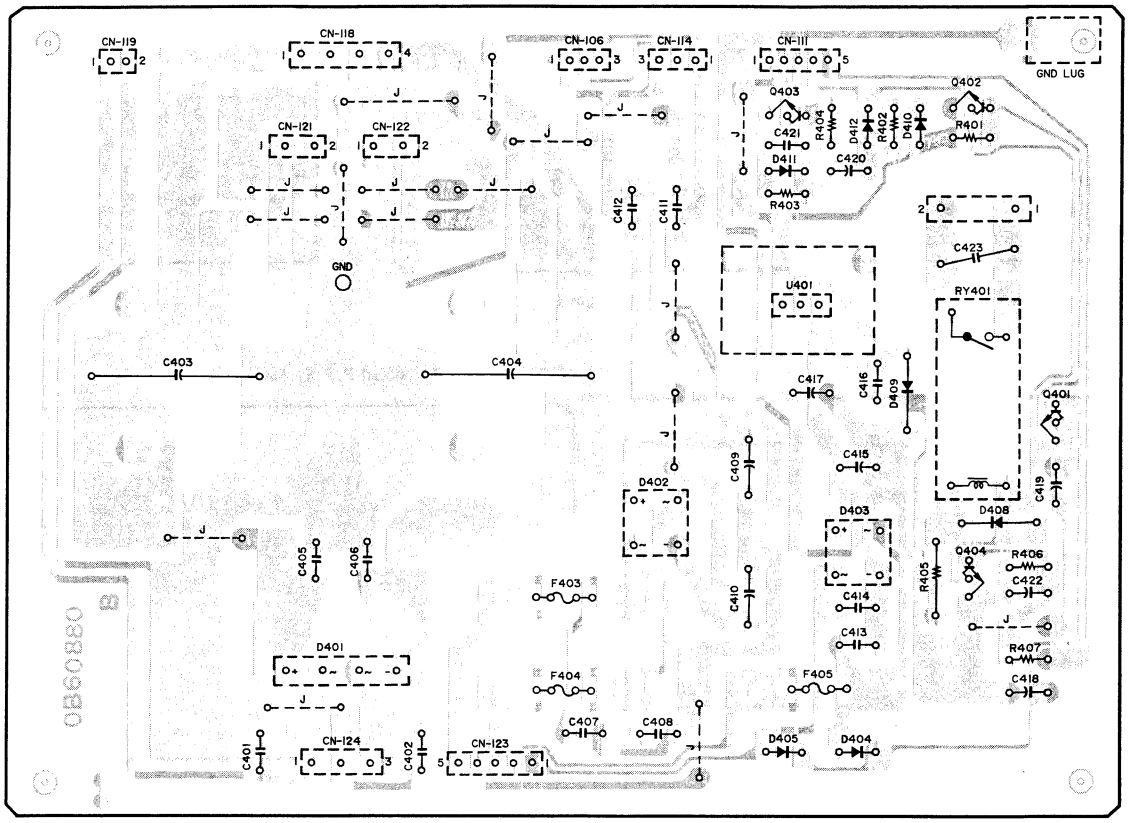


Fig. 6.10

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.10. Power Supply P.C.B. Ass'y		
★	BA08045A	Power Supply P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08044A	Power Supply P.C.B. Ass'y (AUS, OTR, JPN)
	0B60880B	Power Supply P.C.B.
U401	0B11897A	IC 78M05A
Q401	0B10064A	TR DTC124ES
Q402,403	0B06100A	TR 2SC945
Q404	0B10023A	TR 2SC2002
D401	0B12617A	SiD KBU8D
D402,403	0B12722A	SiD W02GL
D404,405	0B06398A	SiD 1SS176
D408,409	0B12365A	SiD 1SR35-100A
D410,411	0B06398A	SiD 1SS176
D412	0B06398A	SiD 1SS176
R401	0B09703A	RK 12K 1/6W J
R402	0B09721A	RK 68K 1/6W J
R403,404	0B09725A	RK 100K 1/6W J
R405	0B24300R	RF 10 1/2W J
R406	0B09709A	RK 22K 1/6W J
R407	0B09685A	RK 2.2K 1/6W J
C401,402	0B47075A	CML 0.047μ 100V J
C403,404	0B40791A	CE 10000μ 63V
C405,406	0B47077A	CML 0.1μ 63V J
C407,408	0B47075A	CML 0.047μ 100V J
C409,410	0B40792A	CE 2200μ 35V
C411,412	0B47077A	CML 0.1μ 63V J
C413,414	0B47075A	CML 0.047μ 100V J
C415	0B40787A	CE 2200μ 16V
C416	0B47077A	CML 0.1μ 63V J
C417	0B40781A	CE 1000μ 10V
C418	0B40557A	CE 1μ 50V
C419,420	0B40558A	CE 2.2μ 50V
C421	0B47117A	CC 0.1μ 50V
C422	0B40778A	CE 10μ 25V
C423	0B41825A	CC 4700P 400V
RY401	0B90467A	Relay 9V
F403,404	0B90381A	Fuse T1A 250V
F405	0B90384A	Fuse T2.0A 250V
CN106	0B80342A	3P Connector Ass'y
CN111	0B84287A	5P T-Post
CN114	0B81635A	3P T-Post
CN118	0B81322A	4P T-Post
CN119	0B81459A	2P T-Post
CN121,122	0B81400A	2P T-Post
CN123	0B81637A	5P T-Post
CN124	0B81401A	3P T-Post
	0B90366A	Fuse Clip (6)
	0B84383A	3P Wire Holder (CN106)
	0B80364B	Ground 4 Ass'y (1)
	0J05625B	TR Heat Sink (1)
	0B90502A	Heat Sink (EP, SWT, GER, UK) (1)
	0B90471A	Heat Sink (AUS, OTR, JPN) (1)
	0E03355A	Earth Lug for P.C.B. (1)
	0B84275A	Wrapping Terminal (1)
	0E00986A	M3x10 ⊕ Binding (1)
	0E00986A	

6.11. Eq. Amp. P.C.B. Ass'y

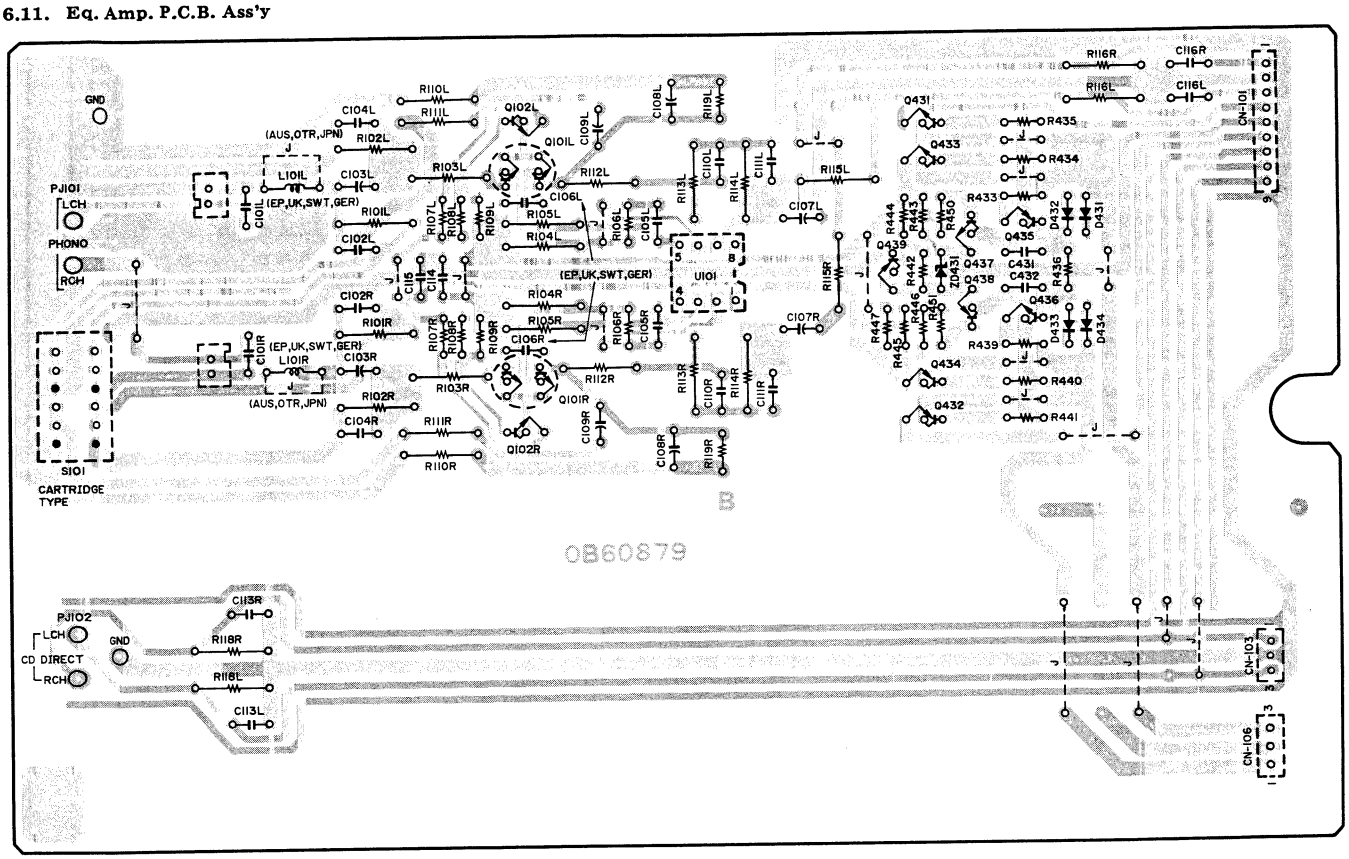


Fig. 6.11

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.11. Eq. Amp. P.C.B. Ass'y		
★	BA08043A	Eq. Amp. P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08042A	Eq. Amp. P.C.B. Ass'y (AUS, OTR, JPN)
	0B60879B	Eq. Amp. P.C.B.
U101	0B11713A	IC μPC4570C
Q101L,R	0B10382A	TR 2SC3065 (E,F)
Q102L,R	0B10078A	TR 2SC2240 (GR)
Q431	0B06322A	TR 2SC2002 (K,L)
Q432	0B06372A	TR 2SA953 (K,L)
Q433	0B06322A	TR 2SC2002 (K,L)
Q434	0B06372A	TR 2SA953 (K,L)
Q435	0B06155A	TR 2SA733 (P)
Q436,437	0B06100A	TR 2SC945
Q438,439	0B06155A	TR 2SA733 (P)
ZD431	0B12168A	ZD 10V B2
D431,432	0B06398A	SiD 1SS176
D433,434	0B06398A	SiD 1SS176
L101L,R	0B51377A	FN Coil 50μH (EP, SWT, GER, UK)
R101L,R	0B01679A	RK 100 1/4W J
R102L,R	0B05876A	RK 51K 1/4W J
R103L,R	0B05800A	RK 5.6 1/4W J
R104L,R	0B01888A	RK 10K 1/4W J
R105L,R	0B01888A	RK 10K 1/4W J
R106L,R	0B09611A	RK 1.8 1/6W J
R107L,R	0B09693A	RK 4.7K 1/6W J
R108L,R	0B09701A	RK 10K 1/6W J
R109L,R	0B09711A	RK 27K 1/6W J
R110L,R	0B22853A	RM 787 1/4W F
R111L,R	0B22854A	RM 41.2 1/4W F
R112L,R	0B22579A	RM 243 1/4W F
R113L,R	0B22563A	RM 38.3K 1/4W F
R114L,R	0B09541A	RM 464K 1/4W F
R115L,R	0B01857A	RK 1.0K 1/4W J
R116L,R	0B01889A	RK 100K 1/4W J
R118L,R	0B05508A	RK 56K 1/4W J
R119L,R	0B09719A	RK 56K 1/6W J
R433	0B09677A	RK 1K 1/6W J
R434,435	0B09685A	RK 2.2K 1/6W J
R436	0B09725A	RK 100K 1/6W J
R439	0B09677A	RK 1K 1/6W J
R440,441	0B09685A	RK 2.2K 1/6W J
R442	0B09701A	RK 10K 1/6W J
R443	0B09693A	RK 4.7K 1/6W J
R444	0B09697A	RK 6.8K 1/6W J
R445,446	0B09701A	RK 10K 1/6W J
R447	0B09687A	RK 2.7K 1/6W J
R450,451	0B09701A	RK 10K 1/6W J
C101L,R	0B47027A	CML 470P 50V J
C102L,R	0B47027A	CML 470P 50V J
C103L,R	0B40720A	CE 10μ 16V (LN)
C104L,R	0B47126A	CC 220P 50V K (EP, SWT, GER, UK)
	0B09302A	CML 100P 50V J (AUS, OTR, JPN)
C105L,R	0B41300A	CML 0.15μ 50V J
C106L,R	0B47124A	CC 150P 50V K (EP, SWT, GER, UK)
C107L,R	0B40758A	CE 2.2μ 50V (LN)
C108L,R	0B40720A	CE 10μ 16V (LN)
C109L,R	0B40796A	CE 220μ 6.3V (LN)
C110L,R	0B47151A	CPP 2000P 50V G
C111L,R	0B47152A	CPP 6800P 50V G
C113L,R	0B05550A	CML 1000P 50V J
C114,115	0B05550A	CML 1000P 50V J
C116L,R	0B05550A	CML 1000P 50V J
C431,432	0B05653A	CML 1500P 50V J
S101	0B70187A	Slide Switch 4-2 S
PJ101	0B84375A	Pin Jack 2P
PJ102	0B84374A	Pin Jack 2P
CN101	0B84084A	9P T-Post
CN103	0B81467A	3P S-Post
CN106	0B81667A	3P S-Post
	0B80343A	Phone L Ass'y 2P (1)
	0B80344A	Phone R Ass'y 2P (1)
	0B84388A	Screw Terminal (2)

6.12. Selector P.C.B. Ass'y

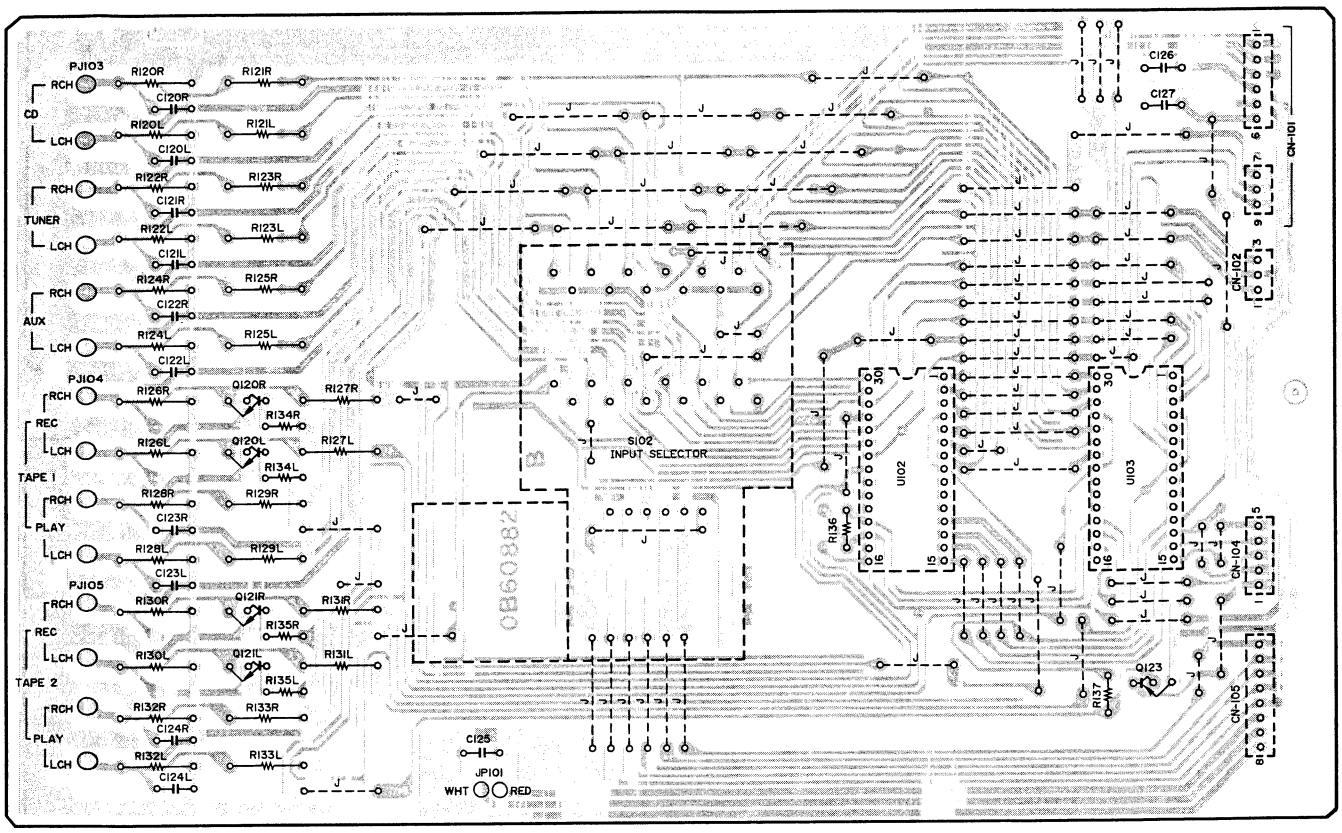
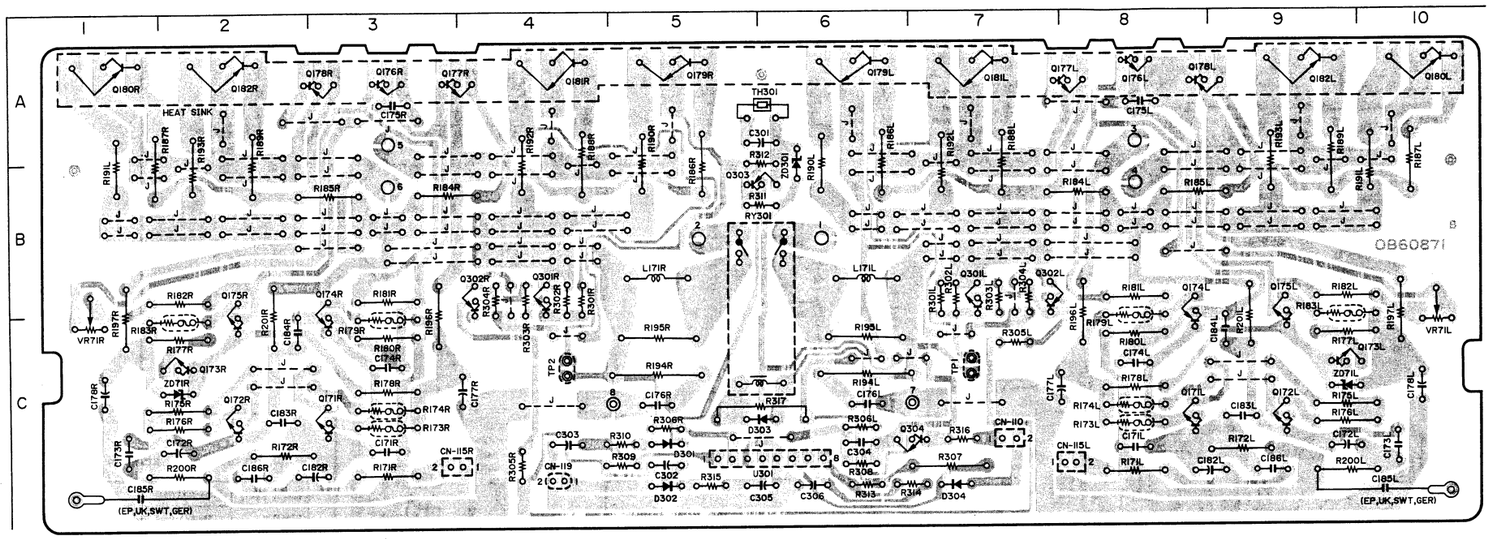


Fig. 6.12

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.12. Selector P.C.B. Ass'y		
★	BA08047A	Selctor P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08046A	Selctor P.C.B. Ass'y (AUS, OTR, JPN)
	0B60882B	Selector P.C.B.
U102,103	0B11879A	IC LC7822
Q120L,R	0B06299A	TR 2SC2878
Q121L,R	0B06299A	TR 2SC2878
Q123	0B10053A	TR DTA144ES
R120L,R	0B05508A	RK 56K 1/4W J
R121L,R	0B01679A	RK 100 1/4W J
R122L,R	0B05508A	RK 56K 1/4W J
R123L,R	0B01679A	RK 100 1/4W J
R124L,R	0B05508A	RK 56K 1/4W J
R125L,R	0B01679A	RK 100 1/4W J
R126L,R	0B01889A	RK 100K 1/4W J
R127L,R	0B05698A	RK 1.5K 1/4W J
R128L,R	0B05508A	RK 56K 1/4W J
R129L,R	0B01679A	RK 100 1/4W J
R130L,R	0B01889A	RK 100K 1/4W J
R131L,R	0B05698A	RK 1.5K 1/4W J
R132L,R	0B05508A	RK 56K 1/4W J
R133L,R	0B01679A	RK 100 1/4W J
R134L,R	0B09717A	RK 47K 1/4W J
R135L,R	0B09717A	RK 47K 1/4W J
R136	0B09709A	RK 22K 1/6W J
R137	0B09717A	RK 47K 1/4W J
C120L,R	0B05550A	CML 1000P 50V J
C121L,R	0B05550A	CML 1000P 50V J
C122L,R	0B05550A	CML 1000P 50V J
C123L,R	0B05550A	CML 1000P 50V J
C124L,R	0B05550A	CML 1000P 50V J
C125	0B47117A	CC 0.1μ 50V Z
C126,127	0B05550A	CML 1000P 50V J
S102	0B70192A	Motor Rotary Switch
PJ103	0B84368A	Pin Jack 6P
PJ104,105	0B84369A	Pin Jack 4P
CN101	0B80340A	9P Connector Ass'y
CN102	0B84280A	3P T-Post
CN104	0B84287A	5P T-Post
CN105	0B81465A	8P T-Post
	0B84383A	3P Wire Holder (CN101) (1)
	0B84386A	6P Wire Holder (CN101) (1)
	0B80386A	2P Connector Ass'y (1)
	0B81459A	2P T-Post (1)

6.13. Power Amp. P.C.B. Ass'y



Note: Q176L/R, Q177L/R, R178L/R, Q179L/R, Q180L/R, Q181L/R and Q182L/R are mounted on the Heat Sink Ass'y.

Fig. 6.13

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.13. Power Amp. P.C.B. Ass'y		
★	BA08029A	Power Amp. P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08028A	Power Amp. P.C.B. Ass'y (AUS, OTR, JPN)
	0B60871B	Power Amp. P.C.B.
U301	0B11246A	IC μPC1237H
Q171L,R	0B10078A	TR 2SC2240 (GR)
Q172L,R	0B10078A	TR 2SC2240 (GR)
Q173L,R	0B10078A	TR 2SC2240 (GR)
Q174L,R	0B10221A	TR 2SA1145 (Y)
Q175L,R	0B10222A	TR 2SC2705
Q301L,R	0B10078A	TR 2SC2240 (GR)
Q302L,R	0B06180A	TR 2SA970
Q303	0B06155A	TR 2SA733
Q304	0B10078A	TR 2SC2240 (GR)
ZD301	0B12619A	ZD 6.8V B2
ZD71L,R	0B12360A	ZD 2.7V B2
D301	0B06398A	SiD 1SS176
D302,303	0B12693A	SiD S5688B
D304	0B12693A	SiD S5688B
L171L,R	0B51376A	Coil 0.8μH
TH301	0B19021A	Thermistor
VR71L,R	0B32190A	Semi VR 1K
R171L,R	0B01679A	RK 100 1/4W J
R172L,R	0B09263A	RK 12K 1/4W J
R173L,R	0B24360A	Fuse Resistor 2.4K 1/4W J (EP, SWT, GER, UK)
	0B09588A	RK 2.4K 1/4W J (AUS, OTR, JPN)
R174L,R	0B24360A	Fuse Resistor 2.4K 1/4W J (EP, SWT, GER, UK)
	0B09588A	RK 2.4K 1/4W J (AUS, OTR, JPN)
R175L,R	0B01706A	RK 47 1/4W J
R176L,R	0B01706A	RK 47 1/4W J
R177L,R	0B20529A	RK 910 1/4W J
R178L,R	0B05641A	RK 47K 1/4W J
R179L,R	0B24355A	Fuse Resistor 330 1/4W J (EP, SWT, GER, UK)
	0B05577A	RK 330 1/4W J (AUS, OTR, JPN)
R180L,R	0B05615A	RK 22K 1/4W J
R181L,R	0B09301A	RK 2K 1/4W J
R182L,R	0B05577A	RK 330 1/4W J
R183L,R	0B24355A	Fuse Resistor 330 1/4W J (EP, SWT, GER, UK)
	0B05577A	RK 330 1/4W J (AUS, OTR, JPN)
R184L,R	0B01679A	RK 100 1/4W J
R185L,R	0B01679A	RK 100 1/4W J
R186L,R	0B24288R	RF 1 1/2W J
R187L,R	0B24288R	RF 1 1/2W J
R188L,R	0B24288R	RF 1 1/2W J
R189L,R	0B24288R	RF 1 1/2W J
R190L,R	0B24286A	RC 0.22 5W
R191L,R	0B24286A	RC 0.22 5W
R192L,R	0B24286A	RC 0.22 5W
R193L,R	0B24286A	RC 0.22 5W
R194L,R	0B24280A	RC 5.6 5W
R195L,R	0B24278A	RF 3.3 1W
R196L,R	0B24304R	RF 22 1/2W
R197L,R	0B24304R	RF 22 1/2W
R200L,R	0B09301A	RK 2K 1/4W J
R201L,R	0B20399A	RK 16K 1/4W J
R301L,R	0B09701A	RK 10K 1/6W J
R302L,R	0B09685A	RK 2.2K 1/6W J
R303L,R	0B09725A	RK 100K 1/6W J
R304L,R	0B09707A	RK 18K 1/6W J
R305L,R	0B09661A	RK 220 1/6W J
R306L,R	0B09725A	RK 100K 1/6W J
R307	0B24285A	RF 8.2K 1W
R308	0B09725A	RK 100K 1/6W J
R309	0B09733A	RK 220K 1/6W J
R310	0B09701A	RK 10K 1/6W J
R311	0B09693A	RK 4.7K 1/6W J
R312	0B09701A	RK 10K 1/6W J
R313	0B09707A	RK 18K 1/6W J
R314	0B09719A	RK 56K 1/6W J
R315	0B09709A	RK 22K 1/6W J
R316	0B09693A	RK 4.7K 1/6W J
R317	0B24284A	RF 1K 2W
C171L,R	0B05550A	CML 1000P 50V Z
C172L,R	0B40776A	CE 47μ 16V (LN)
C173L,R	0B05582A	CML 0.022μ 50V J
C174L,R	0B40773A	CML 10P 50V
C175L,R	0B47078A	CML 0.15μ 63V J
C176L,R	0B47078A	CML 0.15μ 63V J
C177L,R	0B40783A	CE 220μ 63V
C178L,R	0B40783A	CE 220μ 63V
C182L,R	0B40652A	CE 10μ 50V (LN)
C183L,R	0B47126A	CC 220P 50V K (EP, SWT, GER, UK)
	0B09302A	CML 100P 50V J (AUS, OTR, JPN)
C184L,R	0B41507A	CML 22P 50V J
C185L,R	0B47130A	CC 1000P 50V Z (EP, SWT, GER, UK)
C186L,R	0B41772A	CSP 1000P 160V J
C301	0B40558A	CE 2.2μ 50V
C302	0B40779A	CE 10μ 63V
C303	0B40558A	CE 2.2μ 50V
C304	0B40774A	CE 100μ 16V (BP)
C305	0B40784A	CE 4.7μ 50V
C306	0B40780A	CE 100μ 16V
RY301	0B90333A	Relay VB 24MBU-510-UL 24V
TP1,2	0B02233A	2P T-Post
CN110	0B81634A	2P T-Post
CN115L	0B81459A	2P T-Post
CN115R	0B84276A	2P T-Post
CN119	0B80354B	2P Connector Ass'y
	0J05898B	Earth Lug (EP, SWT GER, UK) (2)

● Semiconductor Location

Ref. No.	Location
U301	C-5
Q171L	C-8
Q171R	C-3
Q172L	C-9
Q172R	C-2
Q173L	C-9
Q173R	C-2
Q174L	B-8
Q174R	B-3
Q175L	B-9
Q175R	B-2
Q176L	A-8
Q176R	A-3
Q177L	A-8
Q177R	A-3
Q178L	A-8
Q178R	A-3
Q179L	A-6
Q179R	A-5
Q180L	A-10
Q180R	A-1
Q181L	A-7
Q181R	A-4
Q182L	A-9
Q182R	A-2
Q301L	B-7
Q301R	B-4
Q302L	B-7
Q302R	B-4
Q303	B-5
Q304	C-7
ZD71L	C-9
ZD71R	C-2
ZD301	B-6
D301	C-5
D302	C-5
D303	C-5
D304	C-7

6.14. Front P.C.B. Ass'y

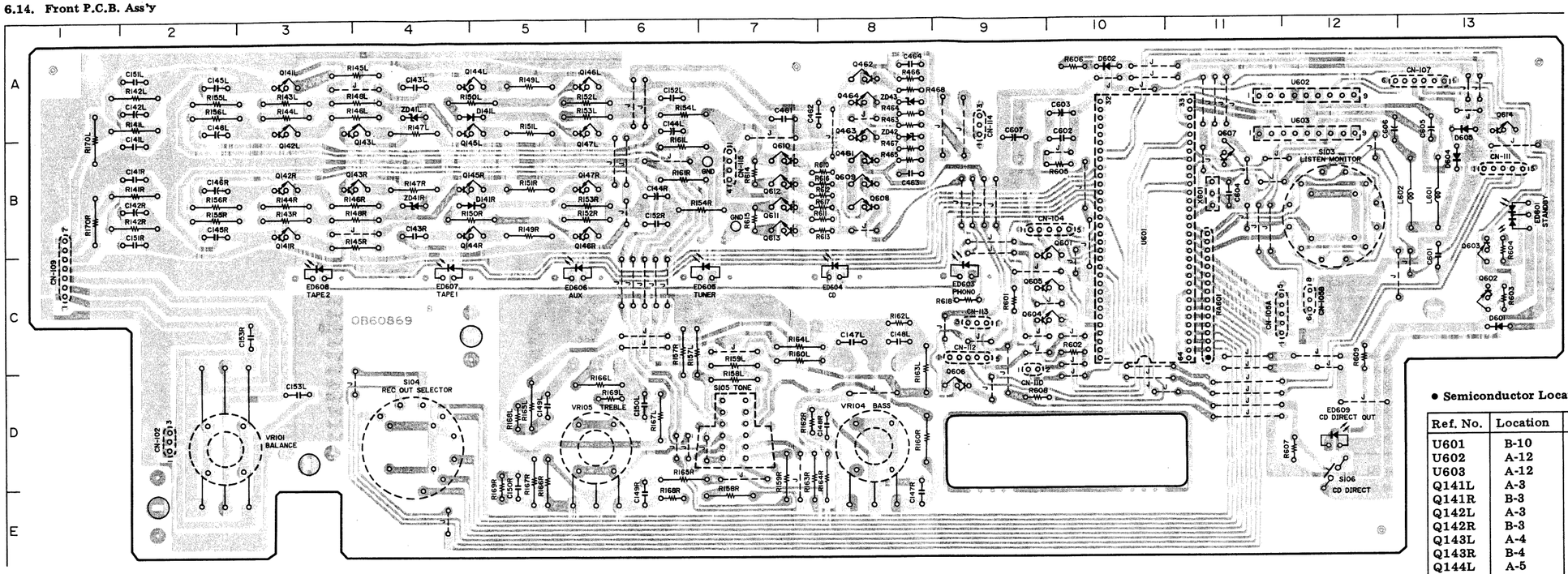


Fig. 6.14

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.14. Front P.C.B. Ass'y		
★	BA08026A	Front P.C.B. Ass'y (EP, SWT, GER, UK)
★	BA08025A	Front P.C.B. Ass'y (AUS, OTR, JPN)
	0B60869B	Front P.C.B.
U601	0B11888A	IC μPD75104CW
U602,603	0B11530A	IC BA6208
Q141L,R	0B10078A	TR 2SC2240 (GR)
Q142L,R	0B10078A	TR 2SC2240 (GR)
Q143L,R	0B10078A	TR 2SC2240 (GR)
Q144L,R	0B06180A	TR 2SA970
Q145L,R	0B10078A	TR 2SC2240 (GR)
Q146L,R	0B10078A	TR 2SC2240 (GR)
Q147L,R	0B06180A	TR 2SA970
Q461	0B06322A	TR 2SC2002 (K,L)
Q462	0B06372A	TR 2SA953 (K,L)
Q463	0B06155A	TR 2SA733
Q464	0B06100A	TR 2SC945
Q601	0B10062A	TR DTC144ES
Q602,603	0B10058A	TR DTA114ES
Q604,605	0B10062A	TR DTC144ES
Q606,607	0B10070A	TR DTC143ES
Q608,609	0B10053A	TR DTA144ES
Q610,611	0B06299A	TR 2SC2878
Q612,613	0B06299A	TR 2SC2878
Q614	0B10062A	TR DTC144ES
ZD41L,R	0B12360A	ZD 2.7V B2
ZD42,43	0B12189A	ZD 20V B2
ED601	0B12711A	LED Green/Amber
ED603,604	0B12710A	LED Green
ED605,606	0B12710A	LED Green
ED607,608	0B12710A	LED Green
ED609	0B12710A	LED Green
D141L,R	0B06398A	SiD 1SS176
D601	0B12693A	SiD S5688B
D602	0B06398A	SiD 1SS176
D604,605	0B12693A	SiD S5688B
X601	0B92043A	X'tal 4.19MHz
L601,602	0B51378R	Inductor 680μH
VR101	0B30139A	VR 250KMN
VR104,105	0B30140A	VR 100KC
RA601	0B21103A	R Network 47Kx15
R141L,R	0B01679A	RK 100 1/4W J
R142L,R	0B01684A	RK 470K 1/4W J
R143L,R	0B01846A	RK 4.7K 1/4W J
R144L,R	0B01846A	RK 4.7K 1/4W J
R145L,R	0B01706A	RK 47 1/4W J
R146L,R	0B01706A	RK 47 1/4W J
R147L,R	0B05614A	RK 1.8K 1/4W J
R148L,R	0B05560A	RK 18K 1/4W J
R149L,R	0B05575A	RK 560 1/4W J
R150L,R	0B01933A	RK 220 1/4W J
R151L,R	0B05575A	RK 560 1/4W J
R152L,R	0B01706A	RK 47 1/4W J
R153L,R	0B01706A	RK 47 1/4W J
R154L,R	0B01857A	RK 1.0K 1/4W J
R155L,R	0B05508A	RK 56K 1/4W J
R156L,R	0B05784A	RK 560K 1/4W J
R157L,R	0B01857A	RK 1.0K 1/4W J
R158L,R	0B01854A	RK 39K 1/4W J
R159L,R	0B01854A	RK 39K 1/4W J
R160L,R	0B09075A	RK 30K 1/4W J
R161L,R	0B05641A	RK 47K 1/4W J
R162L,R	0B09696A	RK 6.2K 1/6W J
R163L,R	0B05698A	RK 1.5K 1/4W J
R164L,R	0B01857A	RK 1.0K 1/4W J
R165L,R	0B01888A	RK 10K 1/4W J
R166L,R	0B01856A	RK 8.2K 1/4W J
R167L,R	0B09882A	RK 620 1/4W J
R168L,R	0B20093A	RK 1.5M 1/6W J
R169L,R	0B09716A	RK 43K 1/6W J
R170L,R	0B05641A	RK 47K 1/4W J
R463,464	0B09685A	RK 2.2K 1/6W J
R465,466	0B09685A	RK 2.2K 1/6W J
R467,468	0B09685A	RK 2.2K 1/6W J
R601,602	0B09717A	RK 47K 1/6W J
R603,604	0B09661A	RK 220 1/6W J
R605	0B09661A	RK 220 1/6W J
R606	0B09701A	RK 10K 1/6W J
R607,608	0B09717A	RK 47K 1/6W J
R609	0B09661A	RK 220 1/6W J
R610,611	0B09717A	RK 47K 1/6W J
R612,613	0B09717A	RK 47K 1/6W J
R614,615	0B09653A	RK 100 1/6W J
R616,617	0B09725A	RK 100K 1/6W J
R618	0B09661A	RK 220 1/6W J
C141L,R	0B47113A	CC 330P 50V K
C142L,R	0B40777A	CE 0.47μ 50V
C143L,R	0B41976A	CC 33P 50V J
C144L,R	0B40784A	CE 4.7μ 50V
C145L,R	0B41974A	CC 100P 50V J
C146L,R	0B40784A	CE 4.7μ 50V
C147L,R	0B09045A	CML 0.027μ 50V J
C148L,R	0B41306A	CML 0.47μ 50V J
C149L,R	0B05687A	CML 1200P 50V J
C150L,R	0B05582A	CML 0.022μ 50V J
C151L,R	0B05582A	CML 0.022μ 50V J
C152L,R	0B05582A	CML 0.022μ 50V J
C153L,R	0B47197A	CSP 33P 50V J
C461,462	0B05550A	CML 1000P 50V J
C463,464	0B47081A	CML 0.47μ 63V J
C601	0B41554A	CC 0.022μ 25V Z
C602	0B47117A	CC 0.1μ 50V K
C603	0B40786A	CE 330μ 6.3V
C604	0B41554A	CC 0.022μ 25V Z
C605,606	0B40158A	CE 100μ 6.3V
C607	0B40501A	CE 0.1F 5.5V
S103	0B70186A	Rotary Switch 1-12NS
S104	0B70190A	Rotary Switch 1-8NS
S105	0B70196A	Push Switch 4-2S-F
S106	0B70161A	Tact Switch
CN102	0B80337B	3P Connector Ass'y
CN104	0B80338B	5P Connector Ass'y
CN105	0B80339A	8P Connector Ass'y
CN107	0B80368B	6P Connector Ass'y
CN109	0B80346A	7P Connector Ass'y
CN110	0B80353A	2P Connector Ass'y
CN111	0B80362B	5P Connector Ass'y
CN112	0B80347A	5P Connector Ass'y
CN113	0B80348B	3P Connector Ass'y
CN114	0B80361A	3P Connector Ass'y
CN115	0B80352B	4P Connector Ass'y
	0B90429A	C.Clip (5)
	0B80379B	Ground 7 Ass'y (1)
	0B84383A	3P Wire Holder (CN105/CN113/CN114) (1)
	0B84385A	5P Wire Holder (CN104/CN105/CN111/CN112) (1)
	0B84386A	6P Wire Holder (CN107) (1)
	0B84387A	7P Wire Holder (CN109) (1)
	0B80395A	Ground 8 Ass'y (1)
	0B84394A	LED Spacer (1)
	0J06295A	LED Leflector (6)

● **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
U601	B-10	Q608	B-8
U602	A-12	Q609	B-8
U603	A-12	Q610	B-7
Q141L	A-3	Q611	B-7
Q141R	B-3	Q612	B-7
Q142L	A-3	Q613	B-7
Q142R	B-3	Q614	A-13
Q143L	A-4	ZD41L	A-4
Q143R	B-4	ZD41R	B-4
Q144L	A-5	ZD42	A-8
Q144R	B-5	ZD43	A-8
Q145L	A-4	ED601	B-13
Q145R	B-5	ED603	C-9
Q146L	A-5	ED604	C-8
Q146R	B-4	ED605	C-7
Q147L	A-5	ED606	C-5
Q147R	B-6	ED607	C-4
Q461	B-8	ED608	C-3
Q462	A-8	ED609	D-12
Q463	A-8	D141L	A-5
Q464	A-8	D141R	B-5
Q601	B-10	D601	C-13
Q602	C-13	D602	A-10
Q603	B-13	D604	B-13
A604	C-9	D605	A-13
Q605	C-9		
Q606	D-9		
Q607	B-11		

7. SCHEMATIC DIAGRAMS

7.1. IC Block Diagrams

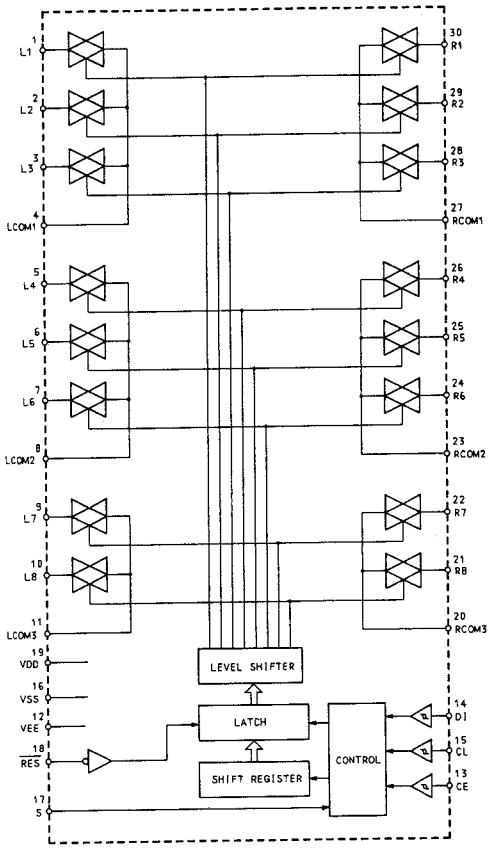


Fig. 7.1.1 Analog Function Switch LC7822

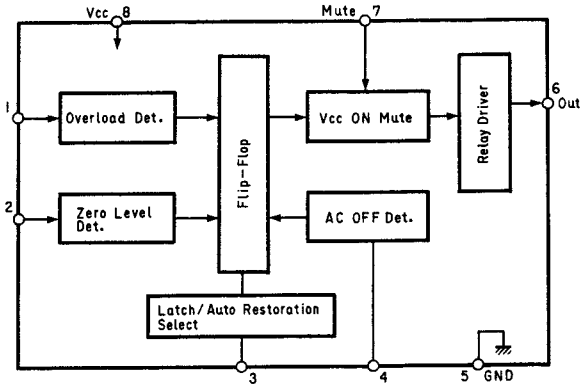
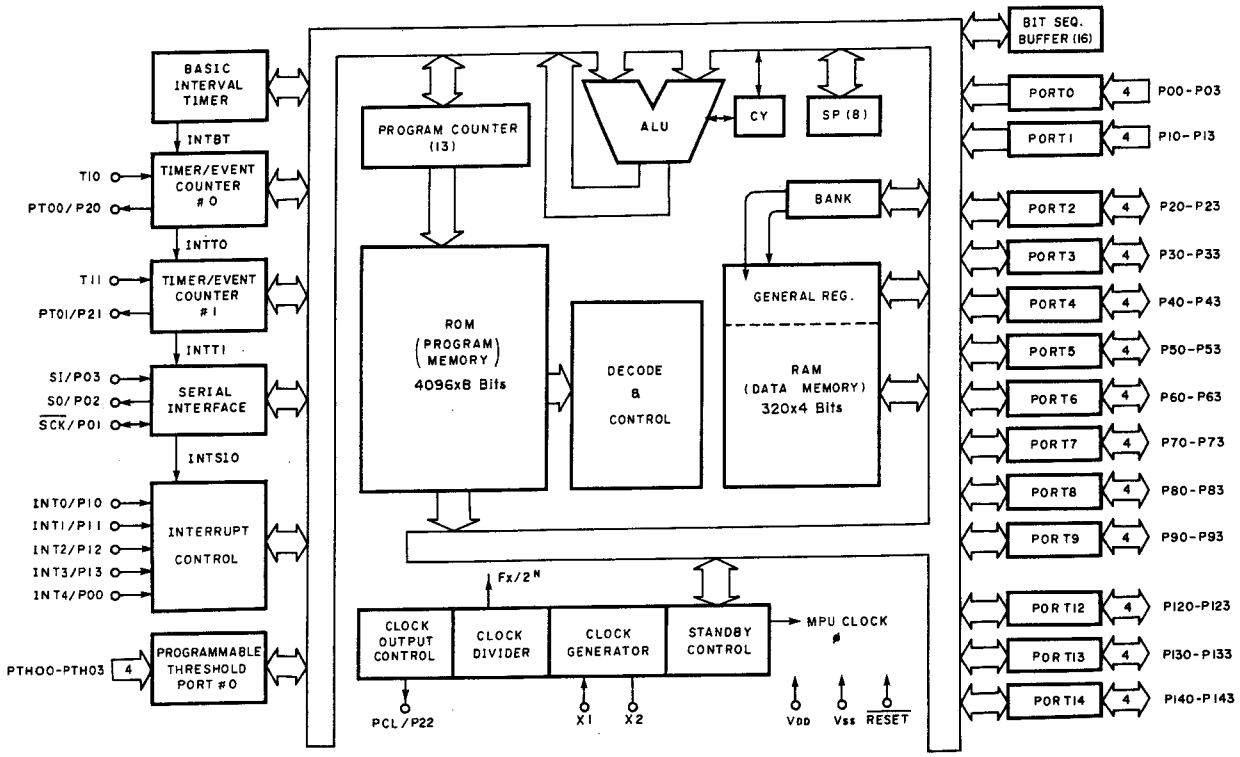


Fig. 7.1.2 Power Amp. Protector μPC1237



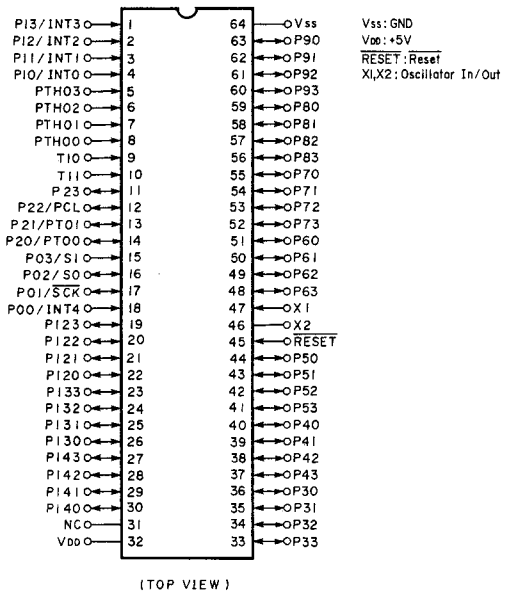
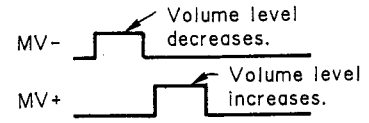


Fig. 7.1.3 Microprocessing Unit (MPU) μPD75104CW

U601 μPD75104CW (System Control MPU)

Pin No.	Signal Name	In/ Out	Function
1 2	INT3 INT2	I	Not used.
3	PRT	I	Protection signal sent from pin 6 (Out) of U301 (μPC1237H) on the Power Amp. P.C.B. Ass'y. Normally "H". If any trouble, such as overload occurs, this pin goes "L". In this case, this IC sets pin 11 (SPO) to "L", causing Q304 on the Power Amp. P.C.B. Ass'y turns OFF, relay RY301 turns OFF, and the power amp. is disconnected from the speakers.
4	IRP	I	Remote control signal input.
5	MSW	I	Model select input. Fixed at "L".
6 7 8 9 10	—	I	Not used. Fixed at "L".
11	SPO	O	Speaker relay (RY301) ON/OFF control signal. Normally "H". Becomes "L" if trouble (overload, etc.) occurs.
12	PRO	O	Power ON relay drive signal. Active "H".
13	$\overline{AFR}$	O	Analog function selectors (U102 and U103 on the Selector P.C.B. Ass'y) reset signal. Active "L".
14	ACE	O	Chip enable signal for analog function selectors (U102 and U103). Active "H".
15	SI	I	Not used. Fixed at "L".
16	SO	O	Serial data output for analog function selectors (U102 and 103).
17	CL	O	Clock pulse for serial data at pin 16 (SO).
18	PIN	I	Power OFF signal input. Normally "H". Immediately becomes "L" when the power is turned OFF.
19	$\overline{PHL}$	O	Phono LED drive signal. Active "L".
20	$\overline{CDL}$	O	CD LED drive signal. Active "L".
21	$\overline{TUL}$	O	Tuner LED drive signal. Active "L".
22	$\overline{AUL}$	O	AUX LED drive signal. Active "L".
23	$\overline{T1L}$	O	Tape 1 LED drive signal. Active "L".
24	$\overline{T2L}$	O	Tape 2 LED drive signal. Active "L".
25	$\overline{STL}$	O	Standby LED drive signal. Active "L".
26	$\overline{POL}$	O	Power ON LED drive signal. Active "L".
27 28 29 30	—	—	Not used. (Open)
31	NC	—	Non connection.
32	VDD	—	+5 V is supplied.
33 34	MR— MR+	O	Input select rotary encoder turning signal.
35	MV—	O	Output volume down signal.
36	MV+	O	Output volume up signal. 
37	$\overline{LMU}$	O	Line mute signal. Active "L".
38	$\overline{RMU}$	O	Record mute signal. Active "L".
39	CDO	O	CD direct output select signal. Active "H".
40	ATO	O	Audio mute signal. Active "H".
41 42	—	—	Not used. Fixed at "L".
43	CDI	I	CD Direct switch input.
44	$\overline{ATI}$	I	Audio Mute switch input. "L" when it is pressed.
45	$\overline{RESET}$	I	System reset input. Active "L".
46 47	X2 X1	—	4.19 MHz ceramic resonator is connected.
48 49 50	RS3 RS2 RS1	I	Listen Monitor rotary switch input signals.
51 to 55	EC5 to EC1	I	Input signals from Input Select Rotary Encoder.
56	—	—	Not used. Fixed at "L".
57	DIR	I	Rec. Out selector "CD DIRECT" input.
58	$\overline{T2R}$	I	Rec. Out selector "COPY1 to 2" input. Set to "L" when selected.
59	$\overline{T1R}$	I	Rec. Out selector "COPY2 to 1" input. Set to "L" when selected.
60	$\overline{AUR}$	I	Rec. Out selector "AUX" input. Set to "L" when selected.
61	$\overline{TUR}$	I	Rec. Out selector "TUNER" input. Set to "L" when selected.
62	$\overline{CDR}$	I	Rec. Out selector "CD" input. Set to "L" when selected.
63	$\overline{PHR}$	I	Rec. Out selector "PHONO" input. Set to "L" when selected.
64	VSS	—	Grounded.

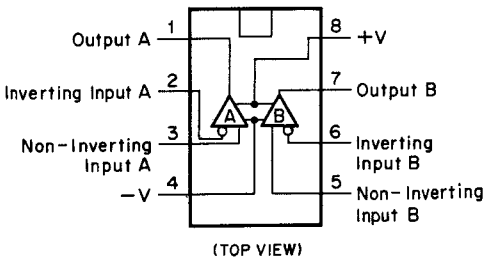


Fig. 7.1.4 Operational Amp. NJM7805A, μPC4570C

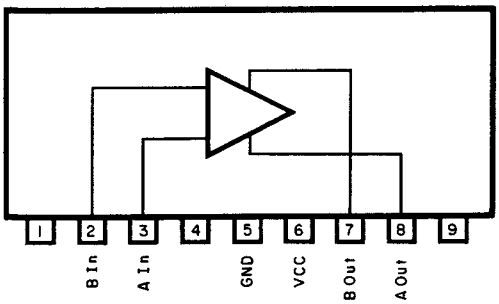
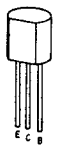
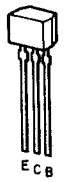


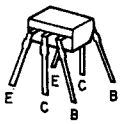
Fig. 7.1.5 Motor Driver BA6208



2SA733
2SA953
2SC945
2SC2002
2SC2240
2SC2878



DTA144ES



2SC3065

7.2. Schematic Diagrams
(1) Input/Rec. Out Selector & Eq. Amp. Section

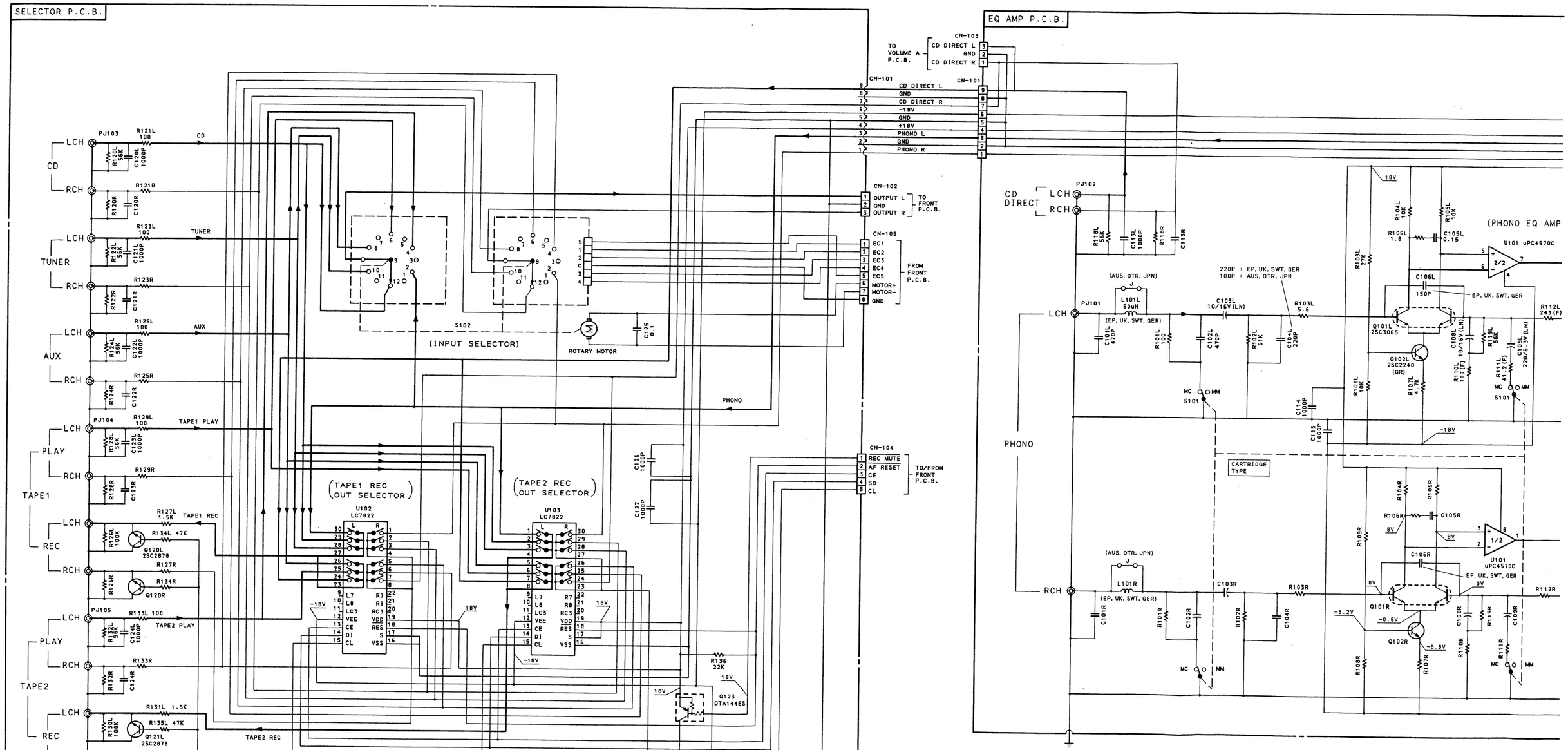


Fig. 7.2.1

Notes: 1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.
4. Description of electrolytic capacitor: 100/16V = 100μ 16V

EQ AMP P.C.B.

CN-103
TO VOLUME A P.C.B.
CD DIRECT L
GND
CD DIRECT R

CN-101
CD DIRECT L
GND
CD DIRECT R
-18V
GND
+18V
PHONO L
GND
PHONO R

CN-102
OUTPUT L
GND
OUTPUT R
TO FRONT P.C.B.

CN-105
EC1
EC2
EC3
EC4
EC5
MOTOR+
MOTOR-
GND
FROM FRONT P.C.B.

CN-104
REC MUTE
AF RESET
CE
SO
CL
TO/FROM FRONT P.C.B.

C125 0.1
C126 1000P
C127 1000P
R136 22K
Q123 DTA144ES
R137 47K

PHONO

CD DIRECT
PJ102
LCH
RCH

R118L 56K
C113L 1000P
R118R
C113R

(PHONO EQ AMP)
U101 uPC4570C
R104L 10K
R105L 10K
R106L 1.8
C105L 0.15
R109L 27K
C106L 150P
EP, UK, SWT, GER
C107L 2.2/50V (LN)
R115L 1K
220P : EP, UK, SWT, GER
100P : AUS, OTR, JPN
(AUS, OTR, JPN)
L101L 50uH
(EP, UK, SWT, GER)
C103L 10/16V (LN)
R103L 5.6
C101L 470P
R101L 100
C102L 470P
R102L 51K
C104L 220P
Q101L 2SC3065
Q102L 2SC2240 (GR)
R112L 243 (F)
R113L 38.3K (F)
R114L 464K (F)
C110L 2000P (Q)
C111L 6800P (Q)
C108L 10/16V (LN)
R113L 56K
C109L 220/6.3V (LN)
R110L 787 (F)
R111L 4.7K (F)
C116L 1000P
R116L 10K
R108L 10K
R107L 4.7K
C114 1000P
C115 1000P
MC MM
S101

CARTRIDGE TYPE

R104R
R105R
R106R
C105R
U101 uPC4570C
R109R
C106R
EP, UK, SWT, GER
C107R
R115R
(AUS, OTR, JPN)
L101R
(EP, UK, SWT, GER)
C103R
R103R
C101R
R101R
C102R
R102R
C104R
Q101R
Q102R
R112R
R113R
R114R
C110R
C111R
C108R
R119R
C109R
R110R
R111R
R108R
R107R
C116R
R116R

(LOCAL POWER SUPPLY)
Q431 2SC2002
Q433 2SC2002
Q435 2SA733
Q437 2SC945
Q439 2SA733
Q438 2SA733
Q436 2SC945
Q434 2SA953
Q432 2SA953
R435 2.2K
R434 2.2K
R433 1K
R444 6.8K
R450 10K
C431 1500P
R443 4.7K
R442 10K
R445 10K
ZD431 10V
R451 10K
R447 2.2K
R446 10K
R441 2.2K
R440 2.2K
R439 1K
D431
D432
D433
D434
R436 100K
CN-106
+28V
GND
-28V
FROM POWER SUPPLY P.C.B.

Fig. 7.2.1

(2) Preamp. & System Control Section

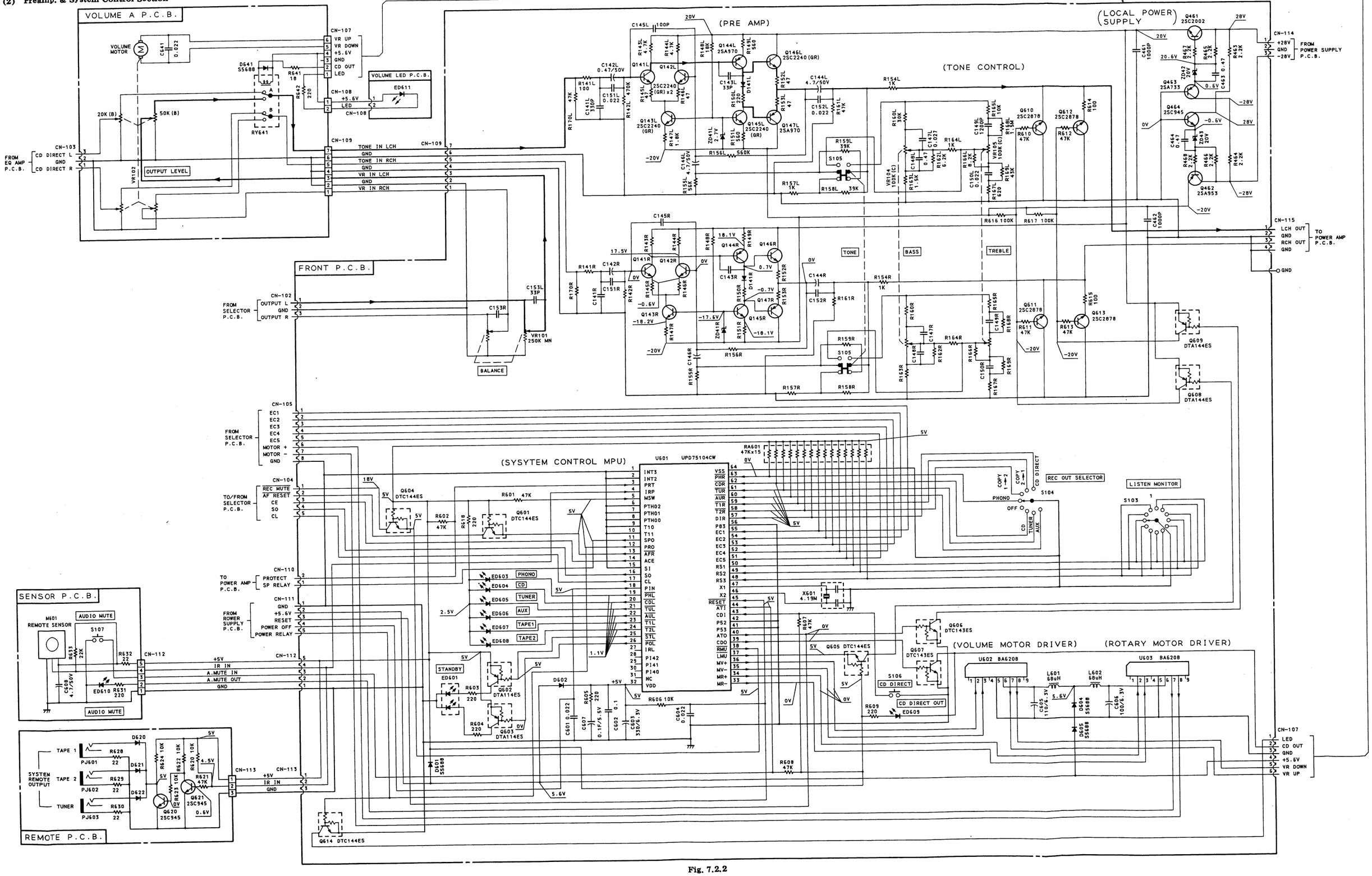


Fig. 7.2.2

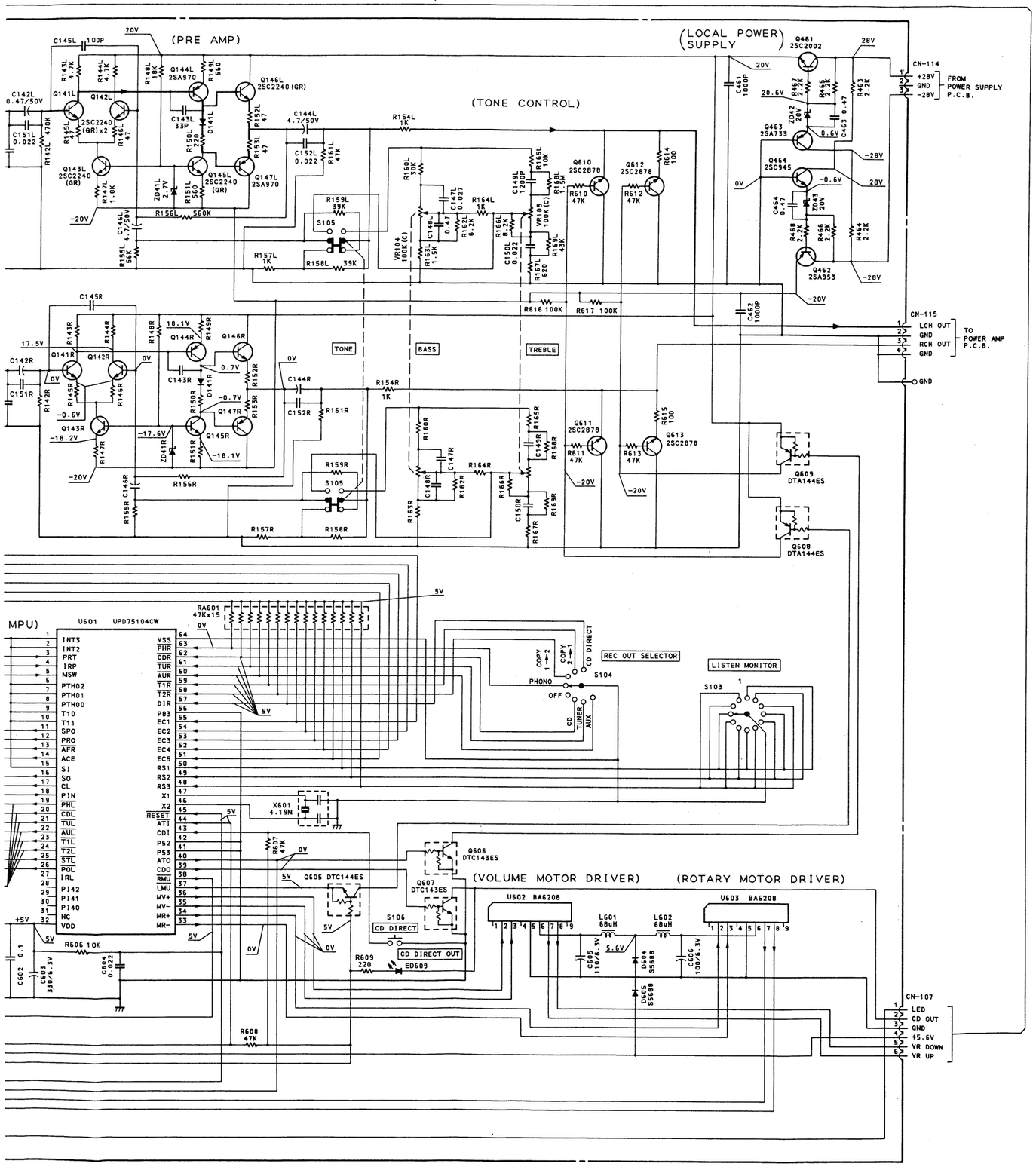
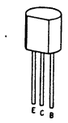
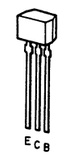


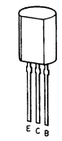
Fig. 7.2.2



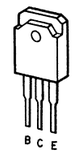
2SA733
2SA953
2SA970
2SC945
2SC2002
2SC2240
2SC2878



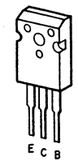
DTA114ES
DTA144ES
DTC124ES
DTC143ES
DTC144ES



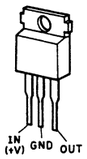
2SA1145
2SC2705



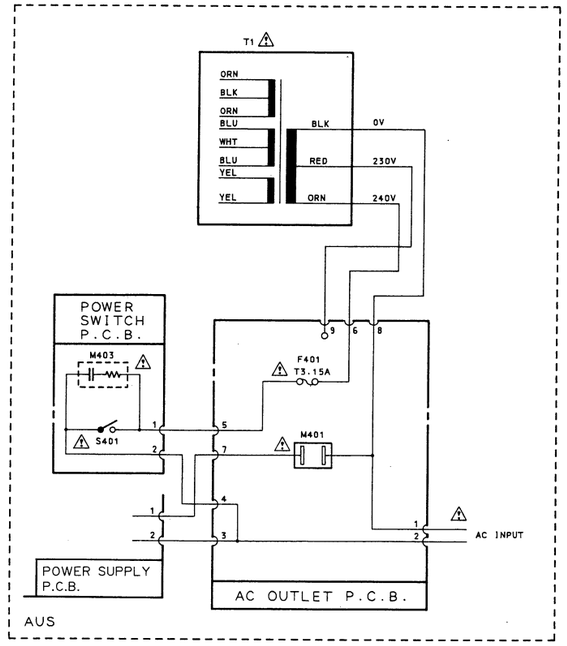
2SA1491
2SC3855



2SA1358
2SC3421



78M05



Notes: 1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.
4. Description of electrolytic capacitor: 100/16V = 100μ 16V

(3) Power Amp. & Power Supply Section

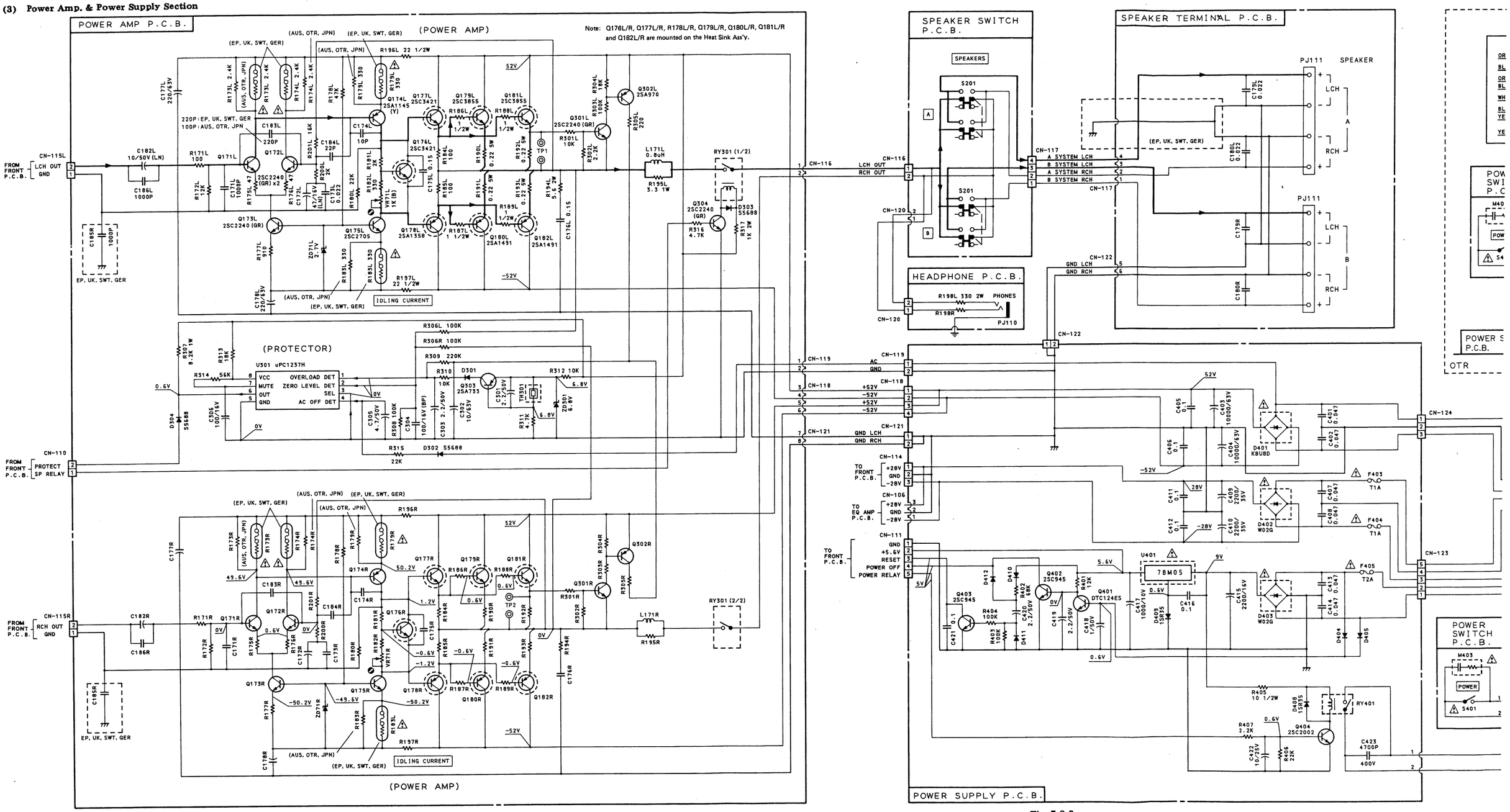


Fig. 7.2.3

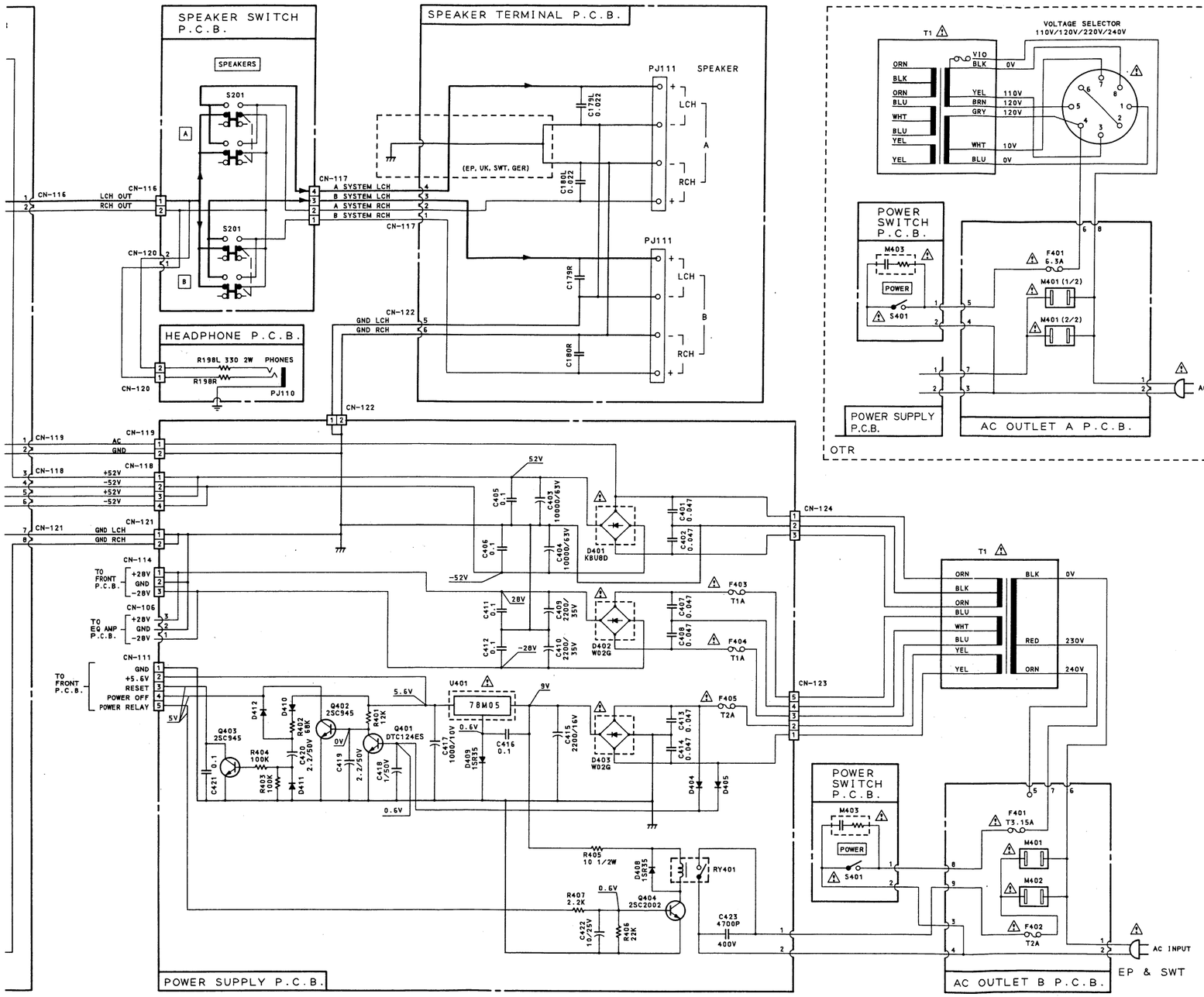
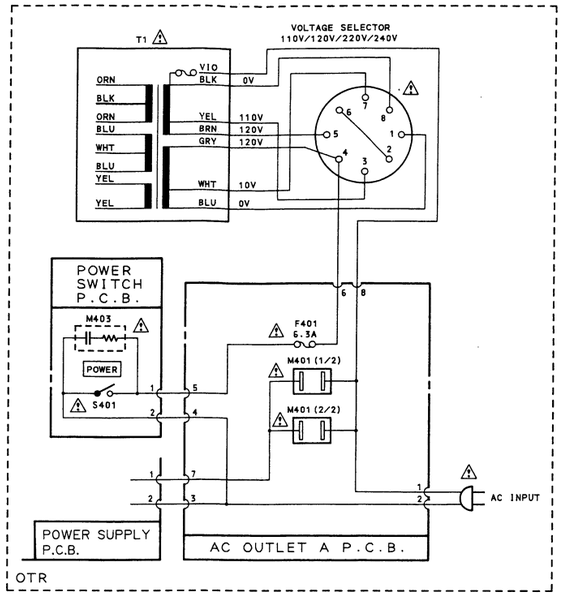
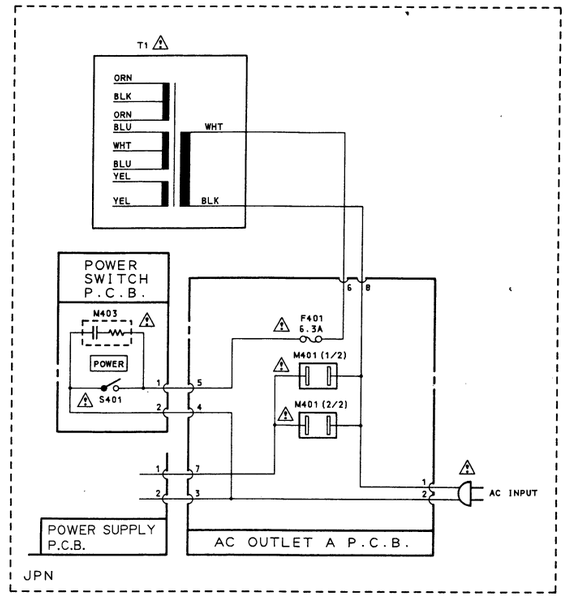
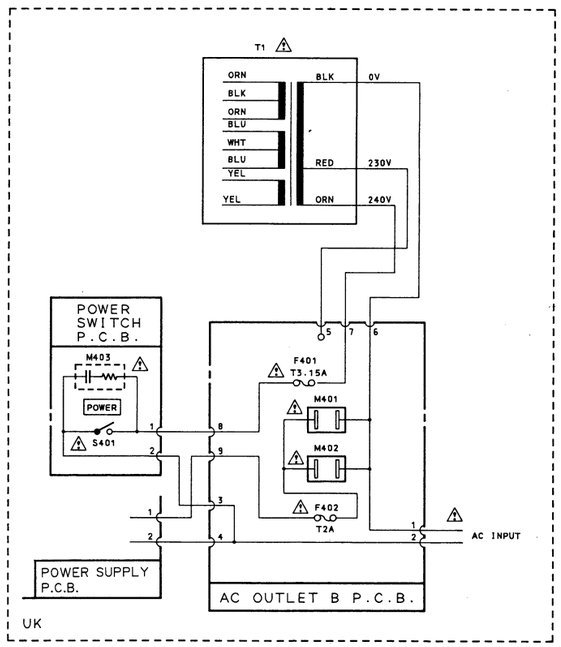


Fig. 7.2.3







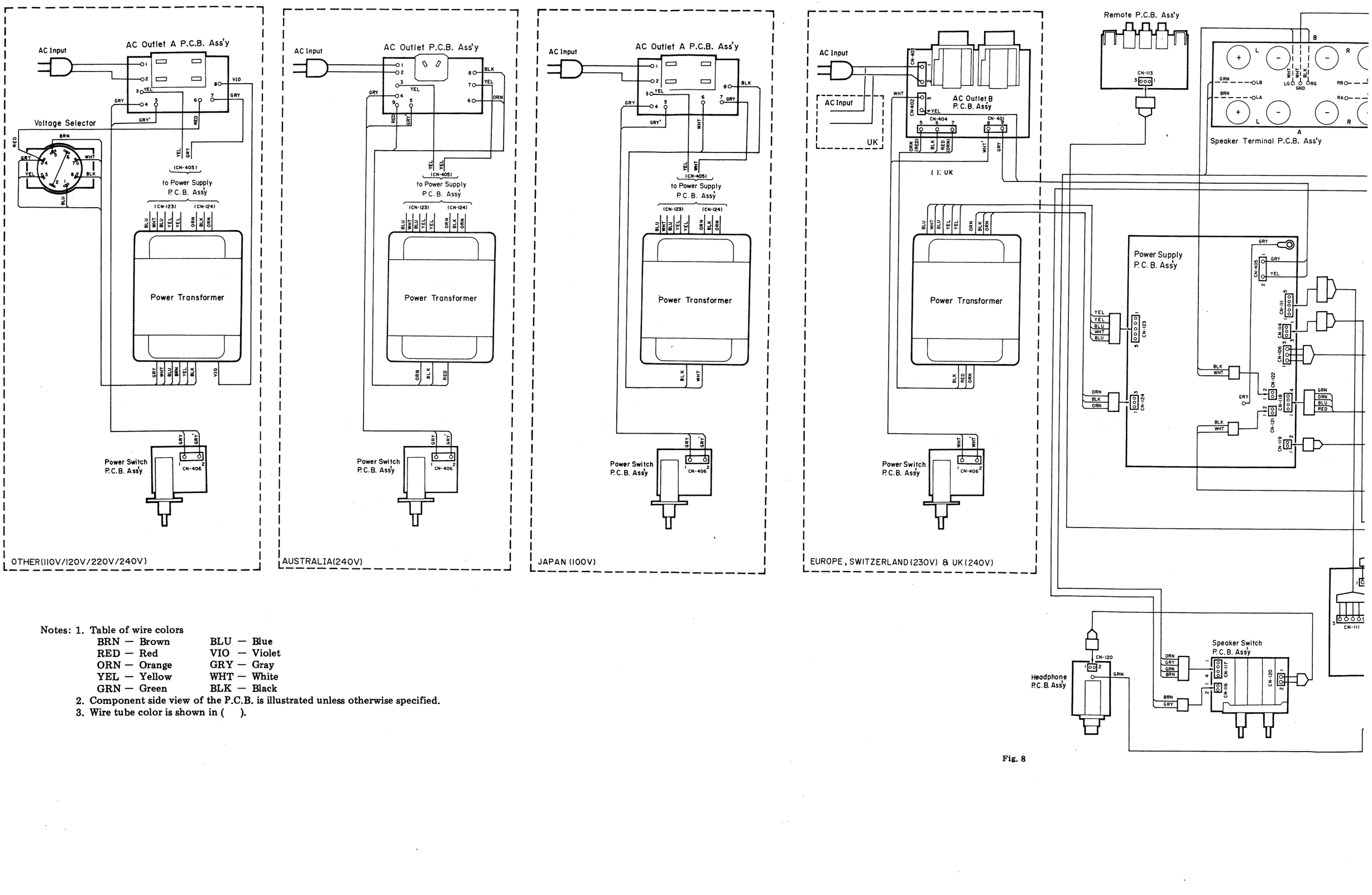
WARNING:

Parts marked with the symbol ⚠ have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

8. WIRING DIAGRAM



Notes: 1. Table of wire colors

BRN — Brown	BLU — Blue
RED — Red	VIO — Violet
ORN — Orange	GRY — Gray
YEL — Yellow	WHT — White
GRN — Green	BLK — Black

2. Component side view of the P.C.B. is illustrated unless otherwise specified.
3. Wire tube color is shown in ( ).

Fig. 8

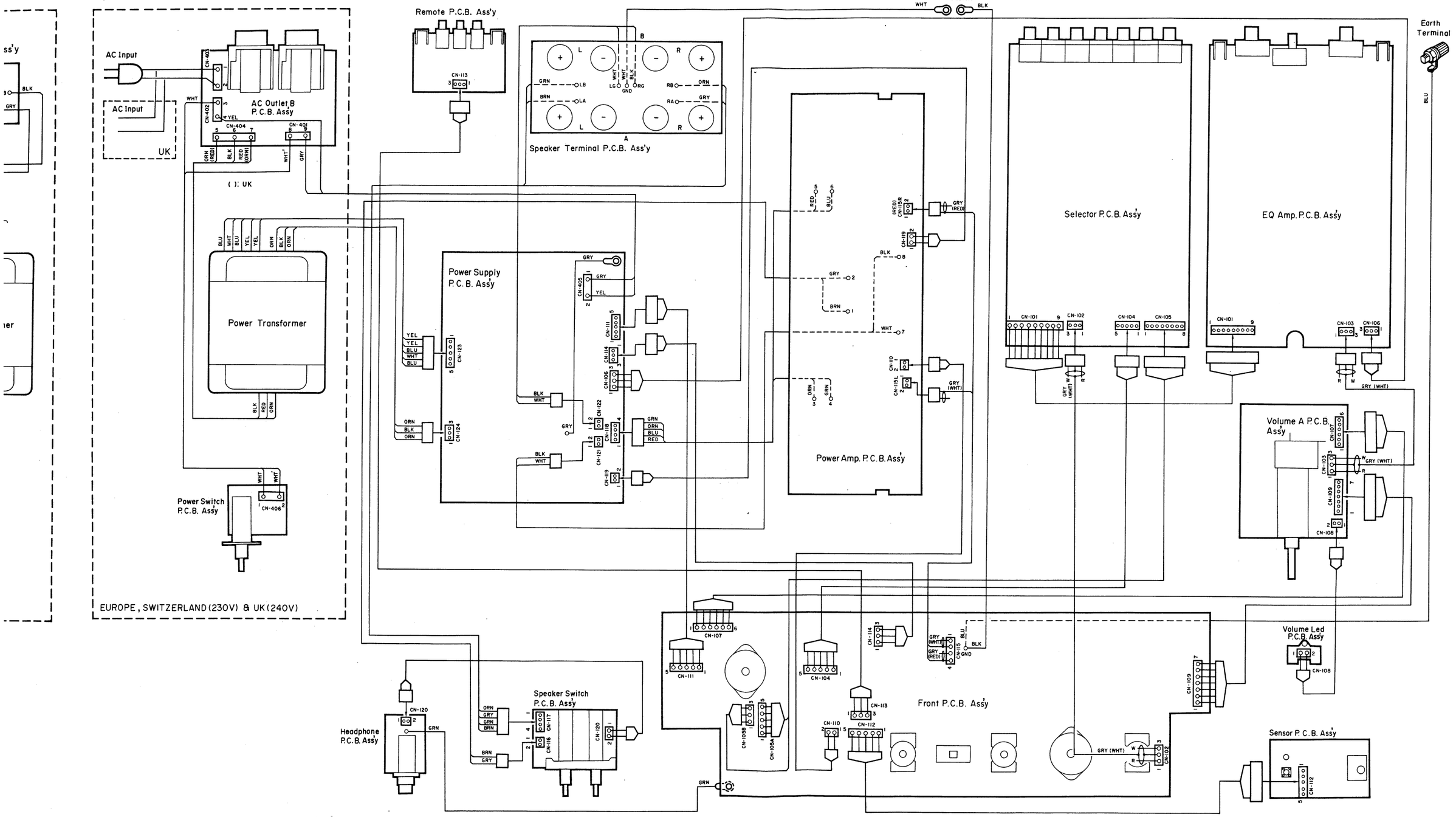

AC Input
AC Input
UK
( ): UK
AC Outlet B P.C.B. Assy
Power Transformer
Power Switch P.C.B. Assy
EUROPE, SWITZERLAND (230V) & UK (240V)
Remote P.C.B. Ass'y
Speaker Terminal P.C.B. Ass'y
Power Supply P.C.B. Assy
Power Amp. P.C.B. Assy
to Chassis
Earth Terminal
Selector P.C.B. Assy
EQ Amp. P.C.B. Assy
Volume A P.C.B. Assy
Volume Led P.C.B. Assy
Front P.C.B. Assy
Sensor P.C.B. Assy
Speaker Switch P.C.B. Assy
Headphone P.C.B. Assy

Fig. 8

9. BLOCK DIAGRAM

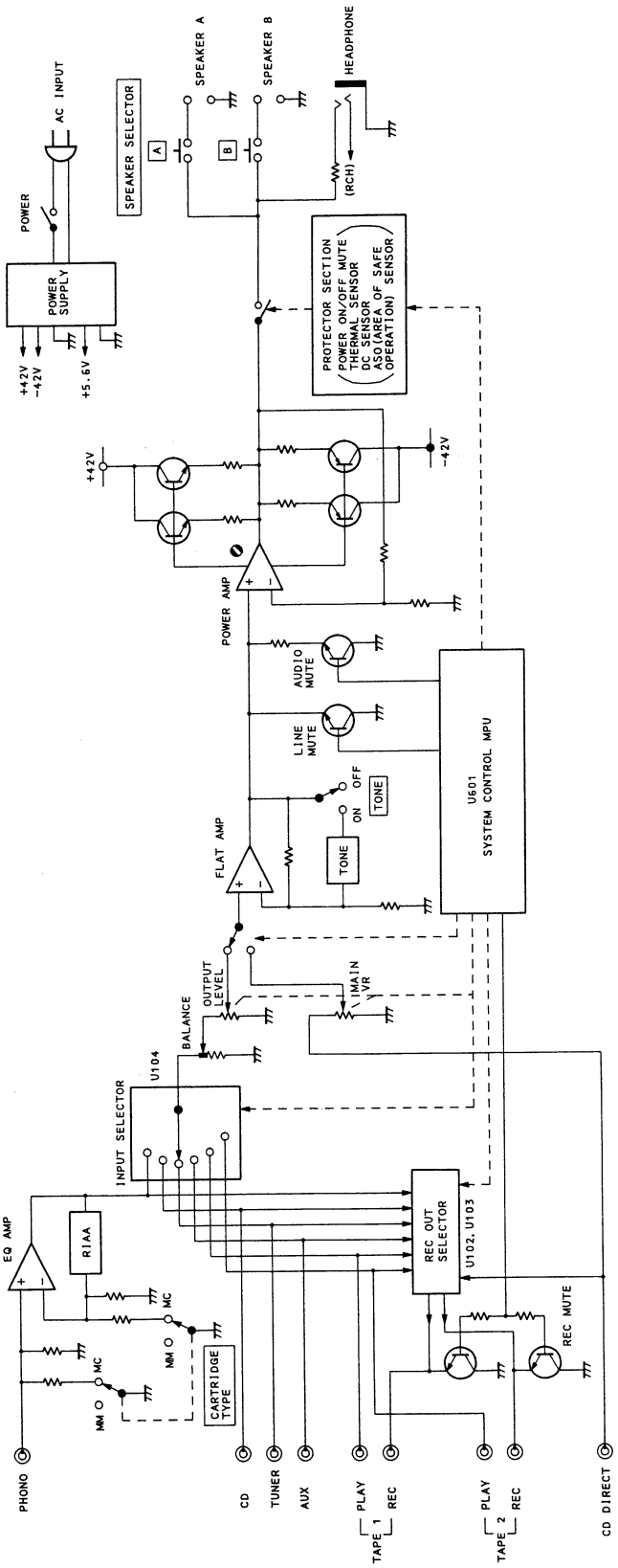


Fig. 9

10. SPECIFICATIONS

For areas other than Scandinavia and Switzerland

- **Power Amplifier Section**

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202 measured from any high-level input (CD/TUNER/TAPE/AUX) to the speaker output.

Continuous Average Output Power	
(both channels driven, 20—20,000 Hz, 0.1% THD)	80 watts per channel into 8 ohms
(DIN, both channels driven, 1 kHz, 1% THD)	130 watts per channel into 4 ohms
Dynamic Output Power	180 watts per channel into 4 ohms 270 watts per channel into 2 ohms
Power Bandwidth	10—50,000 Hz
Frequency Response	20—20,000 Hz +0, —0.5 dB 5—80,000 Hz +0, —3 dB
Signal to Noise Ratio (A-WTD, input shorted)	Better than 105 dB re rated power Better than 83 dB (IHF-A-202)
Total Harmonic Distortion (8 ohms, rated power, 20 Hz—20 kHz)	0.1% or less
Headphone Output (into 40 ohms)	187 mW
Output Current Capability	28 A peak per channel

- **Preamplifier section**

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202. Except for sensitivity, S/N, and tone control characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec Out.

Input Sensitivity/Impedance	
Phono MC	0.125 mV/100 ohms
MM	2.5 mV/47 kohms
CD/Tuner/Tape/Aux	150 mV/20 kohms
Maximum input level (1 kHz)	
Phono MC	9 mV
MM	180 mV
Output Level/Impedance	
Rec Out	150 mV/1.5 kohms
Total Harmonic Distortion (1 kHz, Rec Out, 1 V output level)	
Phono MC	0.01% or less
MM	0.008% or less
RIAA Deviation	
Phono MC/MM	30—20,000 Hz ±0.5 dB
Signal to Noise Ratio (to speaker output, IHF-A-202)	
Phono MC	70 dB
MM	82 dB
Tone Controls	
Bass	20 Hz, ±10 dB
Treble	20 kHz, ±10 dB

- **General**

Power Source	120, 230, 240 or 110/120/220/240 VAC, 50/60 Hz (according to country of sale)
Power Consumption	600 W max.
Convenience Outlets	Switched x 2, maximum capacity 200 W (total)
Dimensions*	430 (W) x 125 (H) x 360 (D) mm
Approximate Weight	15.0 kg

- **Remote Control Unit**

Principle	Infrared pulse system
Power Supply	3 VDC (1.5 V x 2)
Dimensions*	64 (W) x 18 (H) x 176 (D) mm
Approximate Weight	140 g (including batteries)

For Scandinavia and Switzerland

- **Power amplifier section**

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202 measured from any high-level input (CD/TUNER/TAPE/AUX) to the speaker output.

Continuous Average Output (both channels driven, 20—20,000 Hz, 0.1% THD)	80 watts per channel into 8 ohms
Dynamic Output Power	180 watts per channel into 4 ohms 270 watts per channel into 2 ohms
Power Bandwidth	10—50,000 Hz
Frequency Response	20—20,000 Hz +0, —0.5 dB 5—80,000 Hz +0, —3 dB
Signal to Noise Ratio (A-WTD, input shorted)	Better than 105 dB re rated power Better than 83 dB (IHF-A-202)
Total Harmonic Distortion (8 ohms, rated power, 20 Hz—20 kHz)	0.1% or less
Headphone Output (into 40 ohms)	187 mW
Output Current Capability	28 A peak per channel

- **Preamplifier section**

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202. Except for sensitivity, S/N, and tone control characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec Out.

Input Sensitivity/Impedance	
Phono MC	0.125 mV/100 ohms
MM	2.5 mV/47 kohms
CD/Tuner/Tape/Aux	150 mV/20 kohms
Maximum input level (1 kHz)	
Phono MC	9 mV
MM	180 mV
Output level/Impedance	
Rec Out	150 mV/1.5 kohms
Total Harmonic Distortion (1 kHz, Rec Out, 1 V output level)	
Phono MC	0.01% or less
MM	0.008% or less
RIAA deviation	
Phono MC/MM	30—20,000 Hz ±0.5 dB
Signal to Noise Ratio (to speaker output, IHF-A-202)	
Phono MC	70 dB
MM	82 dB
Tone Controls	
Bass	20 Hz, ±10 dB
Treble	20 kHz, ±10 dB

- **General**

Power Source	230 VAC, 50/60 Hz
Power Consumption	400 W max.
Convenience Outlets	Switched x 2, maximum capacity 200W (total)
Dimensions*	430 (W) x 125 (H) x 360 (D) mm
Approximate Weight	15.0 kg

- **Remote control unit**

Principle	Infrared pulse system
Power Supply	3 VDC (1.5 V x 2)
Dimensions*	64 (W) x 18 (H) x 176 (D) mm
Approximate Weight	140 g (including batteries)

*: Dimensions do not include protruding parts. Height is the panel height.

- Specifications and design are subject to change for further improvement without notice.

Service Manual

Amplifier 1

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